HITACHI
Inspire the Next

SERVICE MANUAL

PA **No. 0191**

50/60/70VS810	LC48/B
50V710/715	LC47
60V710/715	LC47B
42V710/715	LC47K

NTSC

LC48/B - LC47/B/K
CHASSIS

R/C: CLU-3842WL

TO GO TO A CHAPTER, CLICK ON ITS HEADING BELOW

CONTENTS

SAFETY PRECAUTIONS 2
PRODUCT SAFETY NOTICE 3
SERVICING PRECAUTIONS 4
AGENCY REGULATORY INFORMATION 9
SPECIFICATIONS 11
FEATURES AND FUNCTIONS 15
ADJUSTMENTS 36
TROUBLESHOOTING FLOWCHARTS 77
DC VOLTAGE TABLES 82
EXPLODED VIEW DIAGRAMS .... 85 Updated 7/6/05
BLOCK DIAGRAMS 104
WIRING CONNECTION DIAGRAMS 105
FINAL WIRING DIAGRAMS 107
PRINTED CIRCUIT BOARDS 110
CIRCUIT SCHEMATIC DIAGRAMS 128
DISASSEMBLY PROCEDURES 147
PARTS LIST 224
QUICK REFERENCE PARTS LIST (IC & UNIT) .... 238 Updated 5/6/05
PWB & Major Assembly Parts List .... 240 Updated 5/24/05

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Before servicing this chassis, it is important that the service technician read the “IMPORTANT SAFETY INSTRUCTIONS” in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the “Important Safety Instructions” in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

LCD PROJECTION TELEVISION

Version 0191.3

MAR 2005

HHEA-MANUFACTURING DIVISION

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety-related notes located on or inside the cabinet and on the chassis or optic unit.

WARNING: Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the optic unit in any manner unless shatterproof goggles are worn. People not so equipped should be kept away from the optic unit while handling.

2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a “HOT” chassis receiver.

3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment cover-shields, isolation resistors, capacitors, etc.

4. When service is required, observe the original lead dress.

5. Always use the manufacturer’s replacement components. Critical components as indicated on the circuit diagram should not be replaced by another manufacturer’s. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.

6. Before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

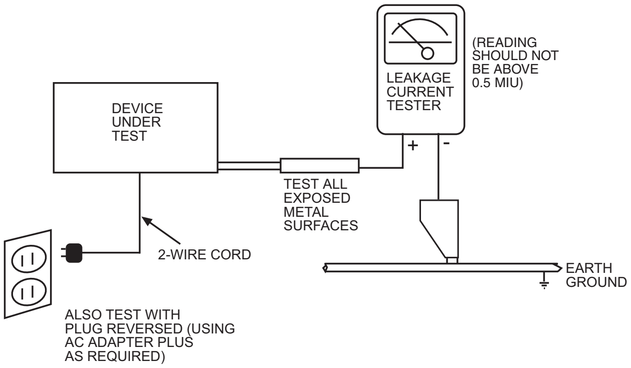
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 2.4MΩ and a maximum resistor reading of 5.2MΩ. Any resistance value below or above this range indicates an abnormality which requires corrective action. An exposed metal part having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolated transformer for this check). Turn the AC power ON. Using a Leakage Current Tester (Simpson’s Model 228 or equivalent), measure for current from all exposed metal parts of the cabinet (antennas, screwheads, overlays, control shafts, etc.) particularly any exposed metal part having a return path to the chassis or to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5 MIU.



(READING SHOULD NOT BE ABOVE 0.5 MIU)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
+
-
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
EARTH GROUND
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUS AS REQUIRED)

AC LEAKAGE TEST

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.

TABLE OF CONTENTS

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified with an ⚠ mark in the schematics and parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI-recommended replacement component, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Production safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manuals may be obtained at a nominal charge from HITACHI Sales Corporation.

Ultraviolet Radiation

OPTIC UNIT: The primary source of Ultraviolet Radiation in this receiver is the optic unit. The optic unit utilized in this chassis is specially constructed to limit Ultraviolet Radiation emissions. For continued Ultraviolet Radiation protection, the replacement optic unit must be the same type as the original HITACHI-approved type.

Service Personnel - WARNING
Eye damage may result from directly viewing the light produced by the lamp used in this product. Always turn off lamp before opening optic unit. Ultraviolet radiation eye protection required during servicing.

When troubleshooting and making test measurements in a receiver with an excessive high voltage problem, avoid being unnecessarily close to the optic unit and the high voltage component.

Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void warranty. Consumers should not risk trying to do the necessary repairs and should refer to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

SAFETY NOTICE USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics identified by ⚠ on the parts list in this service manual and its supplements and bulletins. Before servicing this product, it is important that the service technician read and follow the “Safety Precautions” and the “Product Safety Notices” in this Service Manual.

For continued ultraviolet protection, replace optic unit with original type or HITACHI equivalent type.

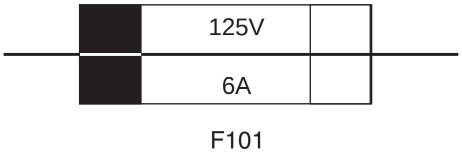
POWER SOURCE

This television receiver is designed to operate on 120 Volts/60Hz, AC house current. Insert the power cord into a 120 Volts/60Hz outlet.

NEVER CONNECT THE TV TO OTHER THAN THE SPECIFIED VOLTAGE OR TO DIRECT CURRENT.

CAUTION!
The following symbol near the fuse indicates fast operating fuse (to be replaced). Fuse ratings appear within the symbol.

Example:



The rating of fuse F101 is 6.0A-125V.
Replace with the same type of fuse for continued protection against fire.

NOTE: The lamp in this product contains Mercury. Dispose of properly in accordance with applicable environmental laws. For Recycling and Disposal information, contact your respective governmental agencies or the Electronic Industries Alliance at www.eiae.org (in the U.S.) or Electronic Product Stewardship Canada at www.epsc.ca (in Canada).

TABLE OF CONTENTS

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 2 of this publication.
NOTE: If unforseen circumstances create conflict between the following SERVICING PRECAUTIONS and any of the SAFETY PRECAUTIONS on page 2 of this publication, always follow the SAFETY PRECAUTIONS.
Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
    a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
    b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.
    c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
    CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this instrument or any of its assemblies.
3. Unless specified otherwise in these service data, clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) ispropyle alchohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.
5. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.
6. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.
7. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor “chip” components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build-up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or desolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ES device.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

TABLE OF CONTENTS

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.

2. Use an appropriate lead free solder (see page 10). Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

3. Keep the soldering iron tip clean and well-tinned.

4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

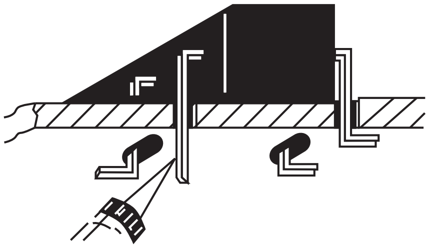
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the sodering iron tip to reach normal temperature (500°F to 600°F).

   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Soldering Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.

2. Draw away the melted solder with an anti-static suction-type sol der removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.

2. Carefully bend each IC lead against the circuit foil pad and solder it.

3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.

2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.

3. Bend into a "U" shape the replacement transistor leads.

4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacement

1. Heat and remove all solder from around the transistor leads.

2. Remove the heatsink mounting screw (if so equipped).

3. Carefully remove the transistor from the circuit board.

4. Insert new transistor in circuit board.

5. Solder each transistor lead, and clip off excess lead.

6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possilbe to diode body.

2. Bend the two remaining leads perpendicularly to the circuit board.

3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.

4. Securely crimp each connection and solder it.

5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

Fuses and conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

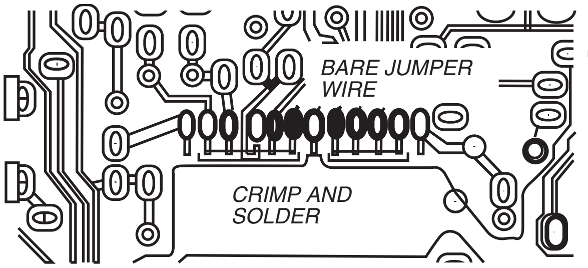
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these area is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



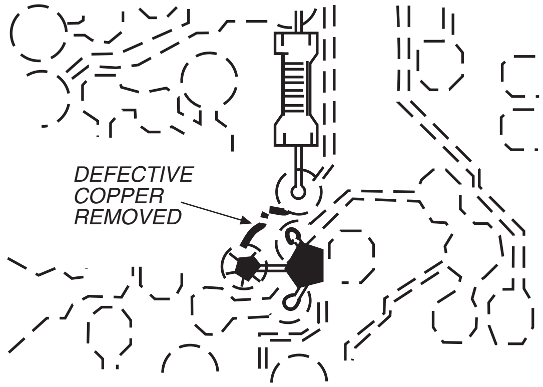
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.

2. The FS tuner must never be disconnected from the FS tuning control module while the power is applied to the instrument.

3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used. .

Chip resistors have a three digit numerical resistance code - 1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6KΩ resistor, 0 = 0Ω (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

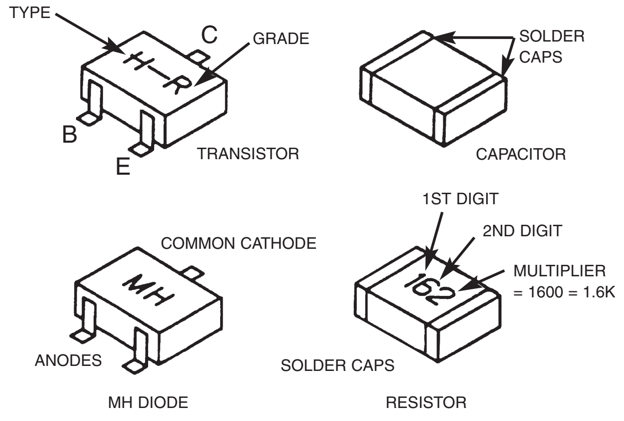
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal.

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

Chip Components

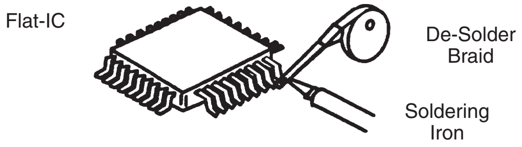

TYPE
C
GRADE
H—R
B
E
TRANSISTOR
SOLDER CAPS
CAPACITOR
COMMON CATHODE
MH
ANODES
MH DIODE
1ST DIGIT
2ND DIGIT
MULTIPLIER = 1600 = 1.6K
162
SOLDER CAPS
RESISTOR

How to Replace Flat-IC

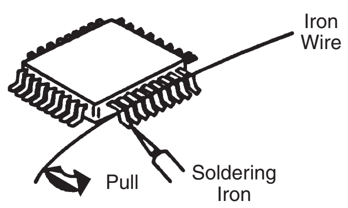
—Required Tools—

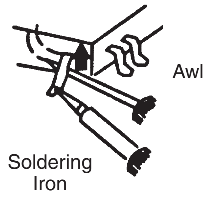
- Soldering iron
- De-solder braids
- iron wire or small awl
- Magnifier

1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.

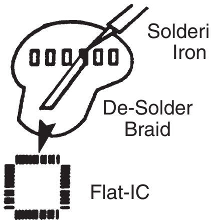

Flat-IC
De-Solder Braid
Soldering Iron

2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.

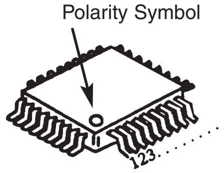

Iron Wire
Pull
Soldering Iron


Awl
Soldering Iron

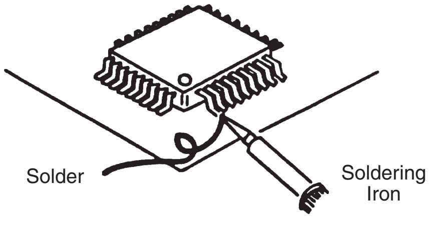
3. Remove the solder from all of the pads of the Flat-IC by using a de-solder braid.


Soldering Iron
De-Solder Braid
Flat-IC

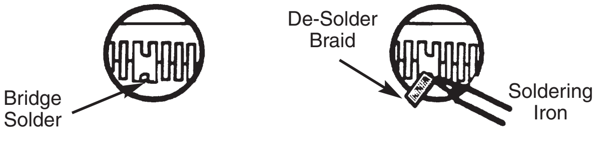
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.


Polarity Symbol
123

5. Solder all pins to the soldering pads using a fine tipped soldering iron.


Solder
Soldering Iron

6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.


Bridge Solder
De-Solder Braid
Soldering Iron

Information for service about lead-free solder introduction

Hitachi introduced lead-free solder to conserve the "Earth Environment".
Please refer to the following before servicing.

(1) Characteristic of lead-free solder

Melting point of lead free solder is 40-50°C higher than solder containing lead.

(2) Solder for service

Following composition is reccomended.

" Sn - 3.0Ag - 0.5Cu " , or " Sn - 0.7 Cu "

Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

Caution when using solder containing lead.

Please remove previous solder as much as possible from the soldering point.
When soldering, please perfectly melt the lead-free solder to mix well with the previous solder.

(3) Soldering iron for lead-free solder.

Melting point of lead-free solder is higher than solder containing lead.
Use of a soldering tool "with temperature control" and "with much thermal capacitance" is reccomended.
(Reccomended temperature control : 320°C - 450°C)

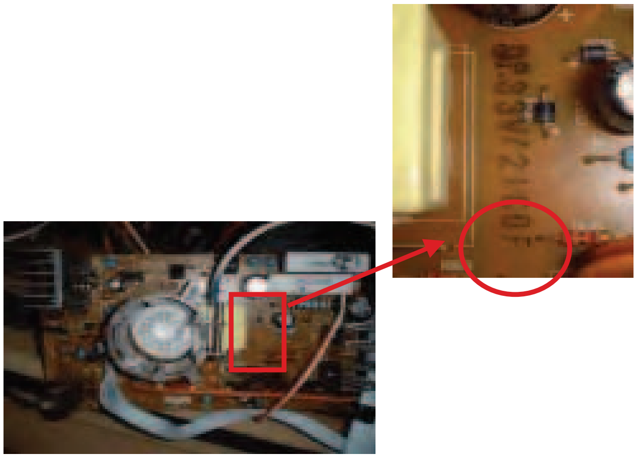
Reccomended temperature

PWB with chip parts	320°C +/- 30°C
PWB without chip parts	380°C +/- 30°C
Chassis, metal, shield etc.	420°C +/- 30°C

(4) Identification of lead-free PWB

2003 models	>> not applied
2003 models	>> mixed
2004 models	>> lead-free solder is intoduced

On lead-free PWB, "F" is added at the end of stamp on PWB. (e.g. DP33W**F**)



AGENCY REGULATORY INFORMATION

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hitachi Home Electronics (America), Inc. may void the user’s warranty.

Cables

Any cables that are supplied with the system must be replaced with identical cables in order to assure compliance with FCC rules. Order Hitachi spares as replacement cables.

Declaration of Conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cable Compatible Television Apparatus- Tèlèvision câblocompatible, Canada.

Notes on Closed Caption:
This television receiver will display television closed captioning, (CC or 🗨), in accordance with paragraph 15.119 of the FCC rules.

For questions regarding this declaration, contact:
Hitachi America, LTD.
Home Electronics Division
900 Hitachi Way
Chula Vista, CA 91914
Tel. 1-800-448-2244 (1-800-HITACHI)
ATTN: CUSTOMER RELATIONS

TO GO TO AN ADJUSTMENT, CLICK ON ITS HEADING BELOW

TABLE OF CONTENTS

I. SPECIFICATIONS 11
1. Features 11
2. Aspect Key Operation 12

II. FEATURES AND FUNCTIONS 15
1. Front Panel Controls 15
2. Rear Panel Jacks 17
3. Lamp Replacement 22
4. On-Screen-Display Features 26
   4.1 Video Setting 29
   4.2 Channel Manager 33
   4.3 Set-Up-Upgrades 35

III. ASSEMBLED P.W.B. ADJUSTMENT 36
1. Memory Initialization 36
2. Factory Reset 37
3. Raster Position Adjustment 38
4. Display Area Specification 39
5. Amplitude Adjustment 40
6. Sub-Contrast Adjustment 40
7. Ghost Adjustment 41
8. V.COM (Flicker) Adjustment 41
9. NASH (Vertical Line) Adjustment 41
10. (Gamma) White Balance Adjustment 42
11. Color (White) Uniformity Adjustment 43
12. Door Protection Operation Check 44
13. Lamp Holder Protection Operation Check 44
14. High Temperature Protection Operation Check/White Balance Specification 44
15. I²C Parameter 45

TABLE OF CONTENTS

I. SPECIFICATION

1. Features:

- Superfine Picture Quality
  1280 Line Horizontal Resolution
- Remote (Controls many PVR/VCR brands, cable boxes, satellite boxes, and other audio equipment).
- New Easy-to-Use (3-Language) On-Screen Menu
- Full Set of Input Jacks, including S-VIDEO
- COMPONENT VIDEO: Y-P_B/P_R
- Six Aspect Modes
- Closed Caption Decoder
- 2-Tuner Picture in Picture
- 2 Antenna Inputs (Either for Analog/Digital)
- Video Input Sensor
- 3 Dimensional Y/C Comb Filter
- Compatible with 1080i, 720p, 480p and 480i input signals.
- HDMI (High Definition Multimedia Interface) (High Bandwidth Digital Content Protection V1.1 compatible).
- Digital Audio Output (Dolby® Digital and PCM)
- Photo Input (for your digital camera).
- CableCARD™ compatible - Contact your local cable operator for more information.
- BBE Technology.
  *Licensed by BBE Sound, Inc. under USP4638258, 5510752 and 5736897. BBE and BBE symbol are registered trademarks of BBE Sound, Inc. Manufactured under license from BBE Sound, Inc.
- SRS(●) Technology.
  *SRS and (●) symbol are trademarks of SRS Labs, Inc. SRS technology is incorporated under license from SRS Labs, Inc.
- DOLBY DIGITAL Technology.
  *Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
- HDMI Technology
  *HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Inputs:

- Power Input . . . . .AC 120V, 60Hz
- Stand-by Power 0.6W
- Power Consumption
  - Refer to rear panel at the back of the T.V.
- Antenna input impedance . . . . .75 Ohm
- Channel coverage . . . . .181ch.
  VHF-Band . . . . .2 ~ 13
  UHF-Band . . . . .14 ~ 69
  CATV Mid Band . . . . .A-5 ~ A-1
  . . . . .A-I
  Super Band . . . . .J-W
  Hyper Band . . . . .W+1 - W+28
  Ultra Band . . . . .W+29 - W+84
- Video . . . . .1.0Vp-p, 75 Ohm
- S-Video
  Luminance (Y) . . . . .1.0Vp-p, 75 Ohm
  Chrominance (C) . . . . . . .0.286Vp-p, 75 Ohm
- Component Video
  Luminance (Y) . . . . .1.0Vp-p, 75 Ohm
  Chrominance (P_B/P_R) . . . . .0.7Vp-p, 75 Ohm
- Audio input Impedance . . . . .47k Ohm
- Average input level 470mVrms
- HDMI . . . . .HDMI 19pin

Outputs:

- Video . . . . .1.0Vp-p. 75 Ohm
- Audio (Fixed) . . . . .470mVrms, 1k Ohm
- S-Video
  Luminance (Y) . . . . .1.0Vp-p, 75 Ohm
  Chrominance (C) . . . . .0.286Vp-p, 75 Ohm
- Optical Out (Digital Audio) . . . . .1 optical connector

Dimensions:

	Height (in.) (mm)	Width (in.) (mm)	Depth (in.) (mm)	Weight (lbs.) (kg)
42V710/715	30 7/16 772.5	47 6/8 1214.0	15 1/16 382.0	28 11/16 36.0
50V710/715	35 1/2 901.0	54 5/8 1,387.0	16 3/8 415	114 51.7
60V710/715	40 1/4 1,023.0	63 3/8 1,609.0	20 1/2 520	139.0 63
50VS810	28 11/16 728.0	55 3/8 1,407.0	16 6/16 415.8	110.2 50.0
60VS810	33 9/16 853.0	64 1/8 1,629.0	19 1/16 483.8	132.3 60.0
70VS810	44 1/8 1,120.0	73 9/16 1,868.0	21 5/8 550.0	182 82.5

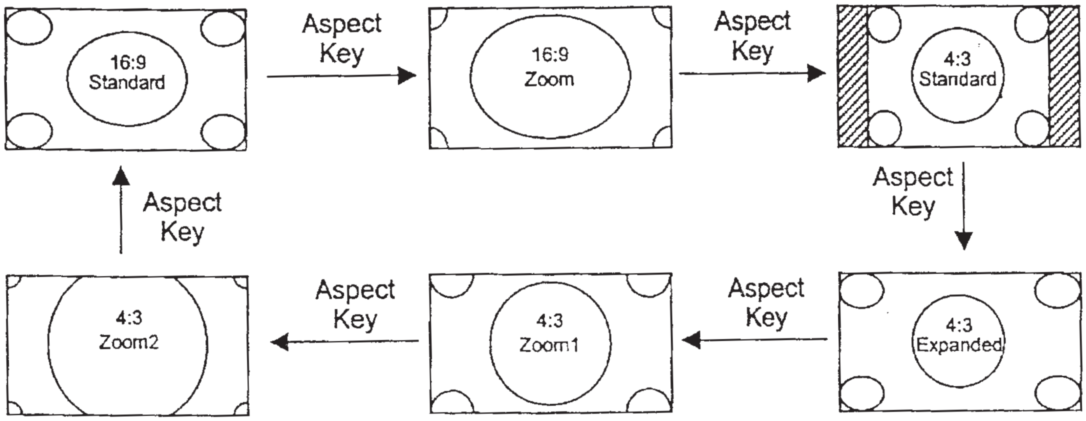
NOTE: Due to improvements, specifications in this operating guide are subject to change without notice.

BACK TO ADJUSTMENTS

I. SPECIFICATION

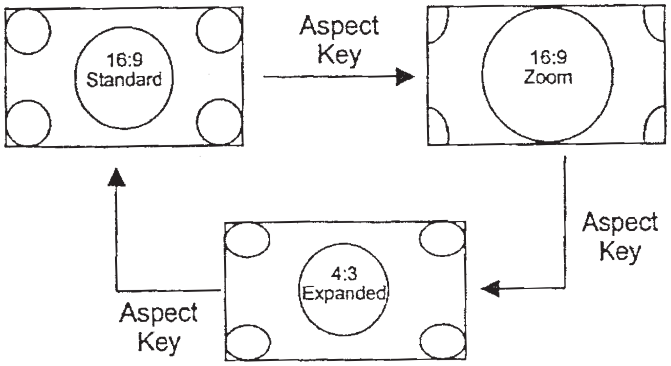
2. Aspect Key Operation

(1) ANT Analog Channel

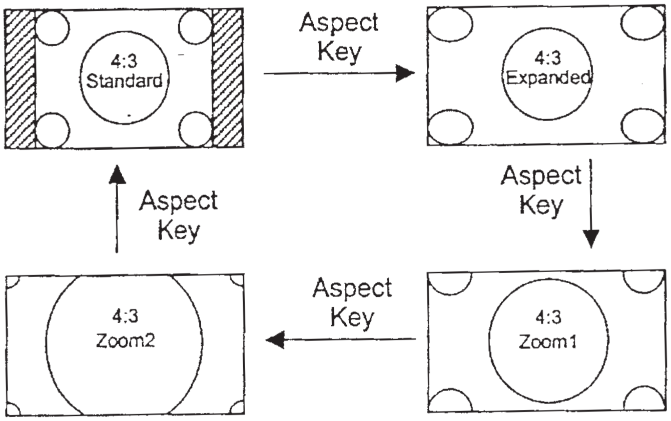

16:9
Standard
Aspect Key
16:9
Zoom
Aspect Key
4:3
Standard
Aspect Key
4:3
Expanded
Aspect Key
4:3
Zoom1
Aspect Key
4:3
Zoom2
Aspect Key

(2) ANT Digital Channel

(a) Aspect: 16x9

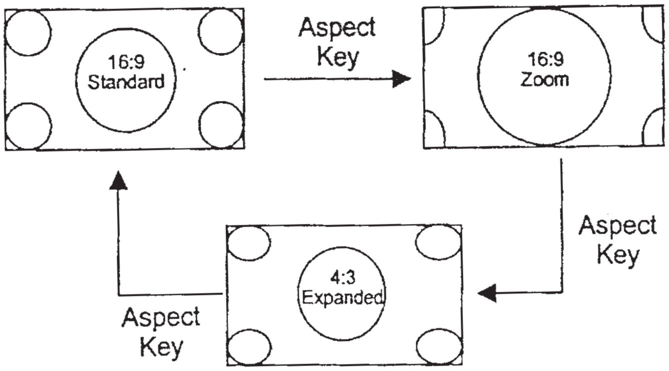

16:9
Standard
Aspect Key
16:9
Zoom
Aspect Key
4:3
Expanded
Aspect Key

(b) Aspect: 4x3


4:3
Standard
Aspect Key
4:3
Expanded
Aspect Key
4:3
Zoom1
Aspect Key
4:3
Zoom2
Aspect Key

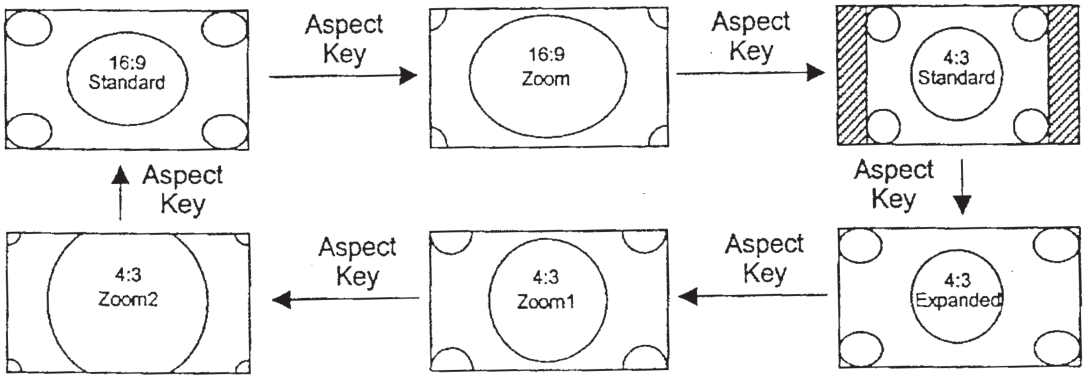
I. SPECIFICATION

(3) HDMI/YPBPR: 1080i/720p


16:9
Standard
Aspect
Key
16:9
Zoom
Aspect
Key
4:3
Expanded
Aspect
Key

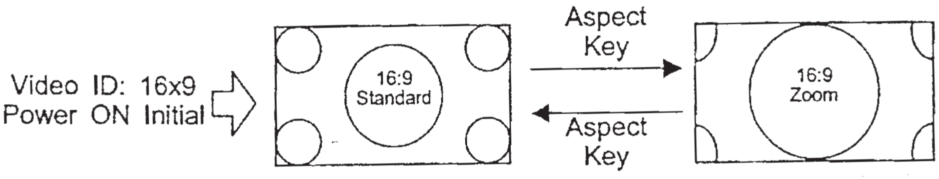
(4) HDMI/YPBPR: 480p/480i, Video/S-Video

(4-1) Auto Aspect OFF


16:9
Standard
Aspect
Key
16:9
Zoom
Aspect
Key
4:3
Standard
Aspect
Key
4:3
Expanded
Aspect
Key
4:3
Zoom1
Aspect
Key
4:3
Zoom2
Aspect
Key

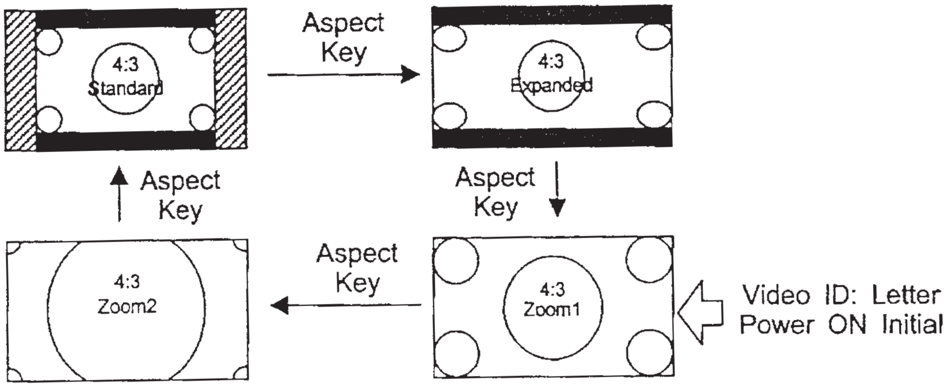
(4-2) Auto Aspect ON

(a) Video ID/HDMI Info: 16x9

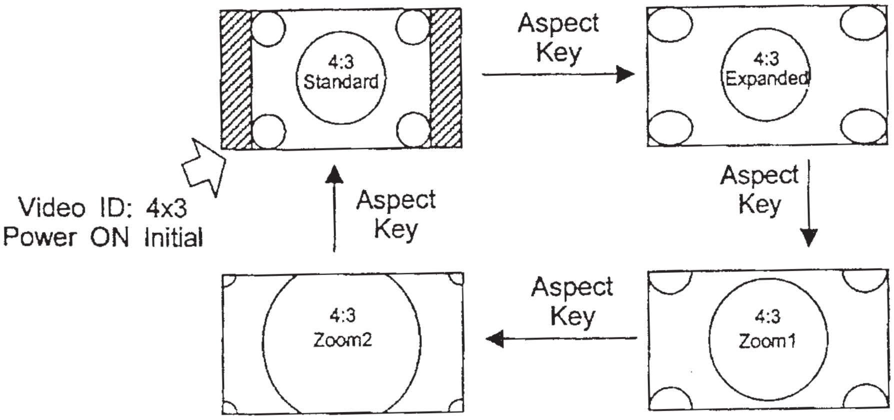

Video ID: 16x9
Power ON Initial
16:9
Standard
Aspect
Key
16:9
Zoom
Aspect
Key

I. SPECIFICATION

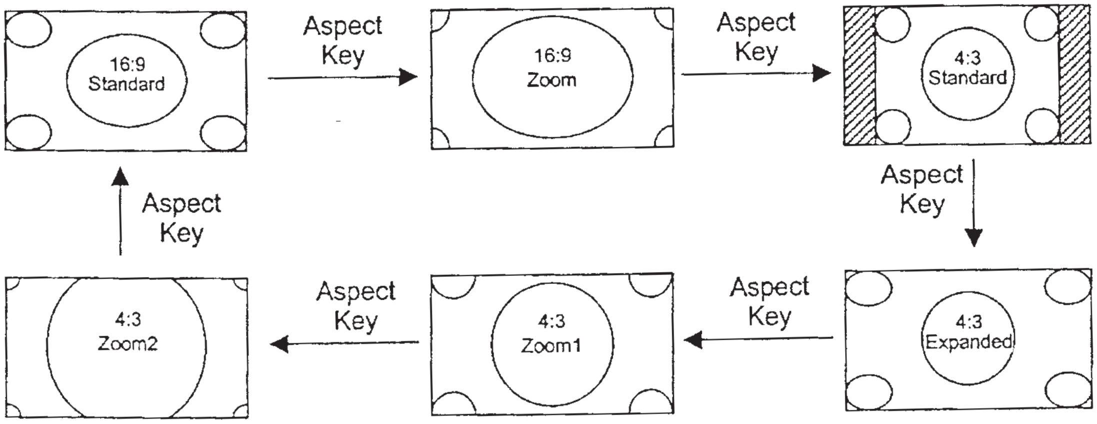
(b) Video ID/HDMI Info: Letter


4:3
Standard
Aspect
Key
4:3
Expanded
Aspect
Key
Aspect
Key
4:3
Zoom2
Aspect
Key
4:3
Zoom1
Video ID: Letter
Power ON Initial

(c) Video ID/HDMI Info: 4x3


4:3
Standard
Aspect
Key
4:3
Expanded
Video ID: 4x3
Power ON Initial
Aspect
Key
Aspect
Key
4:3
Zoom2
Aspect
Key
4:3
Zoom1

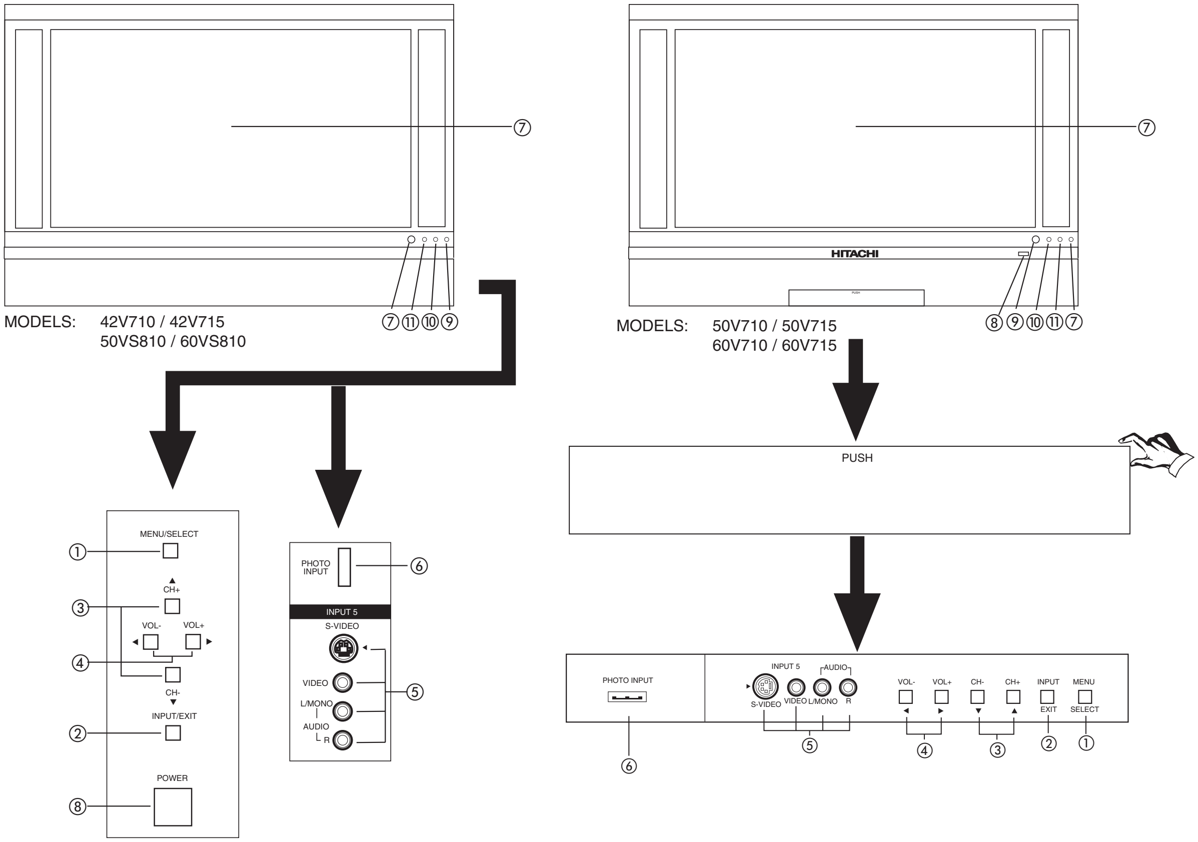
(d) No Video ID, No HDMI Info


16:9
Standard
Aspect
Key
16:9
Zoom
Aspect
Key
4:3
Standard
Aspect
Key
Aspect
Key
4:3
Zoom2
Aspect
Key
4:3
Zoom1
Aspect
Key
4:3
Expanded

BACK TO ADJUSTMENTS

II. FEATURES AND FUNCTIONS

1.0 FRONT PANEL CONTROLS


⑦
⑦
MODELS: 42V710 / 42V715
50VS810 / 60VS810
⑦⑪⑩⑨
HITACHI
MODELS: 50V710 / 50V715
60V710 / 60V715
⑧⑨⑩⑪⑦
PUSH
MENU/SELECT
①
▲
CH+
③
VOL-
VOL+
④
CH-
▼
INPUT/EXIT
②
POWER
⑧
PHOTO INPUT
⑥
INPUT 5
S-VIDEO
VIDEO
L/MONO
AUDIO
L
R
⑤
PHOTO INPUT
INPUT 5
AUDIO
S-VIDEO
VIDEO
L/MONO
R
VOL-
VOL+
CH-
CH+
INPUT
MENU
EXIT
SELECT
⑥
⑤
④
③
②
①

① **MENU/SELECT button**

This button allows you to enter the MENU, making it possible to set TV features to your preference without using the remote. This button also serves as the SELECT button when in MENU mode.

② **INPUT/EXIT button**

Press this button to display the input menu, Ant A/B, INPUT:1,2,3,4,5 or Photo Input. This button also serves as the EXIT button when in MENU mode.

③ **CHANNEL selector**

Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor down (▼) and up (▲) buttons when in MENU mode.

④ **VOLUME level**

Press these buttons for your desired sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left (◀) and right (▶) buttons when in MENU mode. When the TV power is turned OFF at a volume level 31 or greater, the volume level will default to 30 when the TV is turned ON. However, if it is set to a level 30 or less, the volume level will be at the level it was set when the TV is turned ON.

⑤ **SIDE INPUT JACKS (INPUT 5)**

Use these audio/video jacks for a quick hook-up from a camcorder or VCR to instantly view your favorite show or new recording. Press the INPUT/EXIT button on the front control panel until VIDEO: 5 appears in the top right corner of the TV screen. If you have mono sound, insert the audio cable into the left audio jack.

⑥ **PHOTO INPUT**

Insert USB cable from your Digital Camera to view your digital still pictures.

⑦ **IR RECEIVER sensor**

The screen area acts as the IR receiver (remote sensor). When using the remote control, point it towards the screen for best response.

⑧ **POWER button**

Press this button to turn the TV on or off.

BACK TO ADJUSTMENTS

II. FEATURES AND FUNCTIONS

1.0 FRONT PANEL CONTROLS (CONT.)

⑨ **POWER light**

This light is on during normal operation.

Light Blinking Slowly (2 seconds): television lamp is cooling down. It takes 12-15 seconds to warm up and about 2 minutes to cool down.

NOTES:

1.

INDICATOR	INDICATION	MEANING	ACTION
LAMP LED	LIGHT ON	NO LAMP LIGHT or BROKEN LAMP	Need to replace if LAMP still does not light by "Power On" again. Check assembly condition of LAMP UNIT
	BLINKING	WRONG LAMP UNIT ASSEMBLY / LAMP DOOR OPEN	
TEMP LED	LIGHT ON	Too hot inside the OPTIC unit	Call for Service
	BLINKING	COOLING FAN STOPPED	
POWER	LIGHT ON	NORMAL OPERATION	
	SLOWLY BLINKING	COOL DOWN	

2. If the LAMP, TEMP, and POWER LED are blinking in the order below, the television is warming up.
   POWER → TEMP → LAMP

3. Your Hitachi LCD Rear Projection Television may appear to be OFF when it is set to input 1 ~ input 5 and the video signal is not received from the input jacks. Please make sure the Blue Power light indicator is not lit (OFF) when you are not watching for long lasting performance.

4. Your Hitachi LCD Rear Projection Television has an internal lamp that lights up the TV screen. Make sure to turn off the Power when you do not watch the LCD Rear Projection Television for longer lamp life.

⑩ **TEMP indicator**

This light is off during normal operation.

If this indicator is lit, the optic unit is too hot. If this indicator is blinking, the cooling fan has stopped. Please call service.

⑪ **LAMP indicator -** NORMAL OPERATION INDICATOR IS OFF

If light is lit, the lamp has failed. See page 19-22 for lamp replacement procedure. Consult your Hitachi dealer for proper part.

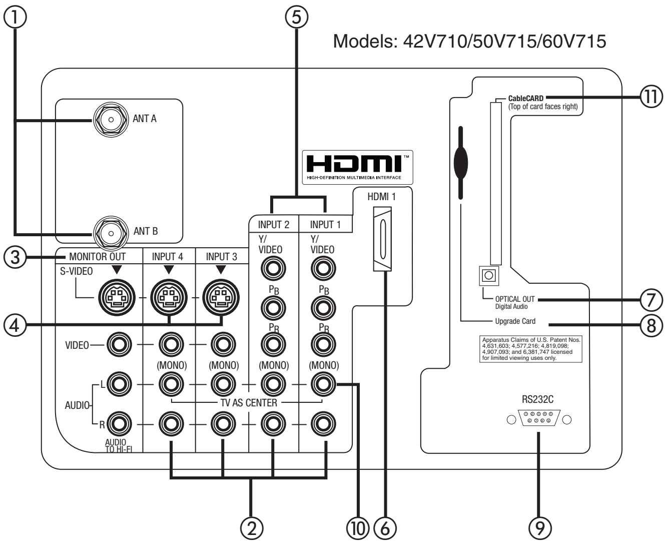
If light is blinking, lamp cover is not assembled securely after replacement.

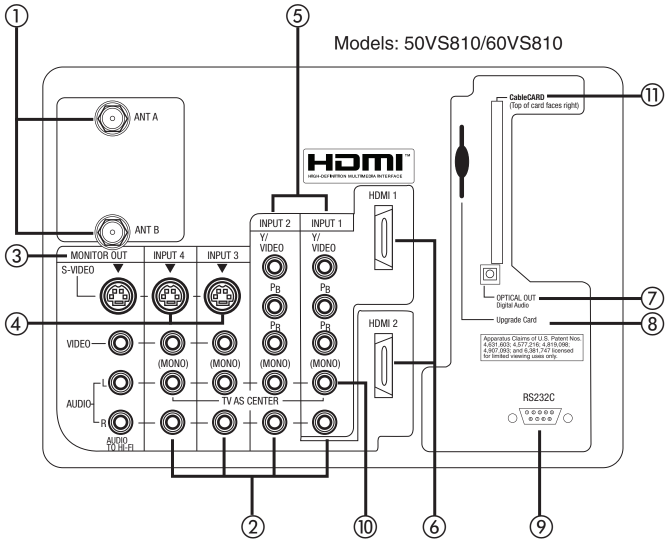
IMPORTANT NOTES:

1. A small number of missing, discolored, or lit all the time dots or pixels is characteristic of TFT LCD technology due to the manufacturing process irrespective of manufacturer.
2. Since LCD Rear PTV incorporates a high pressure lamp to display an image, it may take about one minute for the picture to become stable, after the power has been turned on. After extended use, the picture may darken, the color may look unusual, or the lamp "goes out," (burns out). You may hear a "pop" sound when the lamp "goes out." These are common characteristics of the lamp, and should not be considered defective.
3. LCD Rear PTV incorporates an advanced cooling fan system to prevent from overheating. If you hear the cooling fan, it should not be considered defective.
4. If you hear a "cracking" sound from the TV cabinet, it is due to the TV's cabinet expanding and contracting due to room temperature changes. It has no effect on the TV's functions.

II. FEATURES AND FUNCTIONS

2.0 REAR PANEL JACKS


①
⑤
Models: 42V710/50V715/60V715
ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
CableCARD
(Top of card faces right)
⑪
HDMI 1
INPUT 2
INPUT 1
Y/VIDEO
③
MONITOR OUT
INPUT 4
INPUT 3
S-VIDEO
PB
PR
④
VIDEO
(MONO)
AUDIO
L
R
TV AS CENTER
AUDIO TO HI-FI
OPTICAL OUT
Digital Audio
⑦
Upgrade Card
⑧
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C
②
⑩
⑥
⑨


①
⑤
Models: 50VS810/60VS810
ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
CableCARD
(Top of card faces right)
⑪
HDMI 1
INPUT 2
INPUT 1
Y/VIDEO
③
MONITOR OUT
INPUT 4
INPUT 3
S-VIDEO
PB
PR
④
HDMI 2
VIDEO
(MONO)
AUDIO
L
R
TV AS CENTER
AUDIO TO HI-FI
OPTICAL OUT
Digital Audio
⑦
Upgrade Card
⑧
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C
②
⑩
⑥
⑨

① **Antenna Input**

ANT A- A 75-Ohm RF antenna or CATV (Cable TV) input. ANT A can be displayed as a main picture or sub-picture.

ANT B- A 75-Ohm RF antenna input. ANT B can only be displayed as a main picture. ANT B cannot be displayed as a sub-picture.

NOTE: You may ask your local cable company whether DTV services are available.

② **Audio/Video Inputs 1, 2, 3 and 4**

By using the INPUTS button and CURSOR PAD of the remote control you can select each video source. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laserdisc players, DVD players etc. (If you have mono sound, insert the audio cable into the left audio jack).

NOTE: You may use VIDEO or S-VIDEO inputs to connect to INPUT 3 and 4, but only one of these inputs may be used at a time.

③ **MONITOR OUT**

These jacks provide fixed or variable audio and video signals which are used for recording. Use the S-VIDEO Output for high quality video output.

④ **S-VIDEO Inputs 3 and 4**

Inputs 3 and 4 provide S-VIDEO (Super Video) jacks for connecting equipment with S-VIDEO output capability.

⑤ **Component: Y-P_BP_R Inputs**

Inputs 1 and 2 provide Y-P_BP_R jacks for connecting equipment with this capability, such as a DVD player or Set Top Box. You may use composite video signal for both inputs.

NOTES:

1. Do not connect composite VIDEO and S-VIDEO to Input 3, 4 or 5 at the same time. S-VIDEO has priority over VIDEO input.
2. Your component outputs may be labeled Y, B-Y, and R-Y. In this case, connect the components B-Y output to the TV's P_B input and the components R-Y output to the TV's P_R input.
3. Your component outputs may be labeled Y-C_BC_R. In this case, connect the component C_B output to the TV's P_B input and the component C_R output to the TV's P_R input.
4. It may be necessary to adjust TINT to obtain optimum picture quality when using the Y-P_BP_R inputs.
5. To ensure no copyright infringement, the MONITOR OUT output will be abnormal, when using the Y-P_BP_R jacks.
6. Input 1 and Input 2 (Y/VIDEO) can be used for composite video and component video input.

II. FEATURES AND FUNCTIONS

2.0 REAR PANEL JACKS (CONT.)

⑥ **HDMI1 (High Definition Multimedia Interface) (INPUT 1)**
About HDMI
HDMI is the next-generation all digital interface for consumer electronics. HDMI enables the secure distribution of uncompressed high-definition video and multi-channel audio in a single cable. Because digital television (DTV) signals remain in digital format, HDMI assures that pristine high-definition images retain the highest video quality from the source all the way to your television screen.

HDMI 2 (INPUT 2)
Extra HDMI input that is only available in models 50VS810 and 60VS810.

Use the HDMI input for your external devices such as Set-Top-Boxes or DVD players equipped with an HDMI output connection.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

NOTES:
1. The HDMI input is not intended for use with personal computers.
2. Only DTV formats such as 1080i, 720p, 480i and 480p are available for HDMI input.

⑦ **Optical Out (Digital Audio)**
This jack provides Digital Audio Output for your audio device that is Dolby® Digital and PCM compatible, such as an audio amplifier.

NOTE: *Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

⑧ **Upgrade Card**
This card slot is for future software upgrades. Hitachi will notify you if a software upgrade is required for your TV. In order to receive written notification, please complete and return your warranty card.

⑨ **RS232C Input**
For use with third party home Audio/Video control systems which are commercially available. Please see your dealer regarding these "non Hitachi" home control systems.

⑩ **TV AS CENTER (INPUTS 1-4)**
These jacks are for stereo amplifiers with center signal output capability. This feature allows the TV speakers to be used as a center speaker. The TV must be set as a center channel by selecting "TV as Center" on the Internal Speakers Settings of the Audio Menu.

BACK TO ADJUSTMENTS

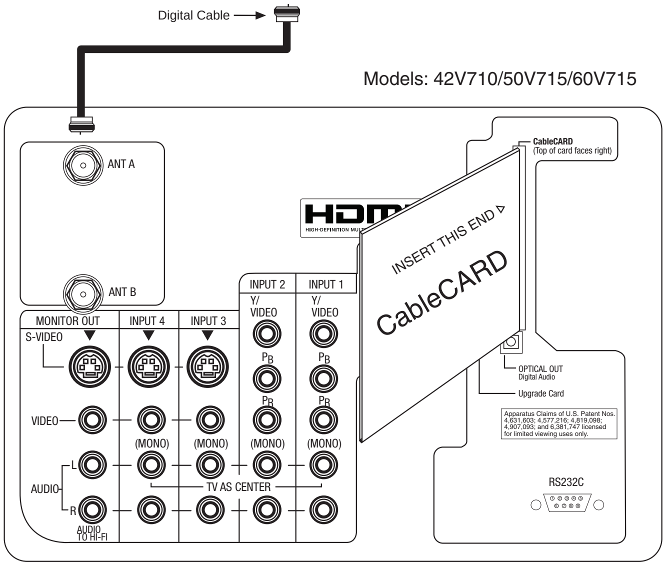
II. FEATURES AND FUNCTIONS

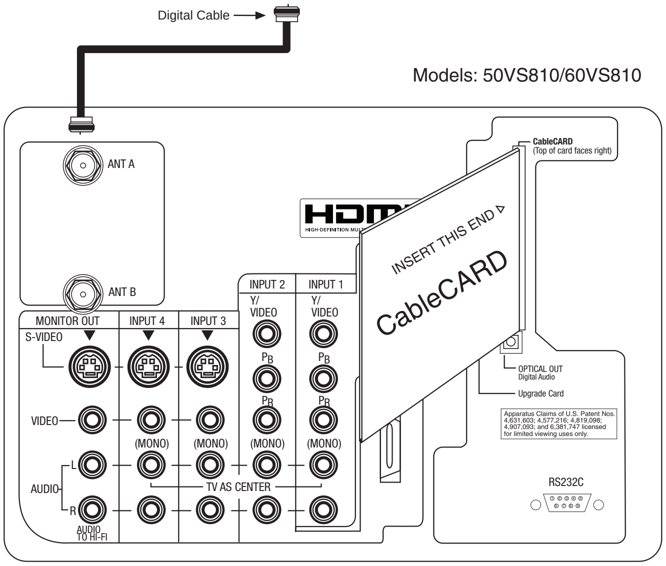
2.0 REAR PANEL JACKS (CONT.)

⑪ CableCARD Slot

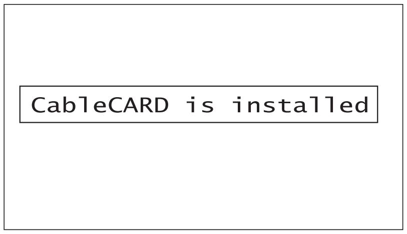
This slot is for the CableCARD that will be provided by your local cable operator to gain access to chosen cable channels. The CableCARD will allow you to tune digital and high definition cable channels. Please call your local cable operator if this service is available before requesting a CableCARD (also known as Point of Deployment (POD) module).

Connect a coaxial cable to ANT A terminal of the Rear Panel Jacks.
Insert the CableCARD into the slot (Top of card should be facing right as shown).


Models: 42V710/50V715/60V715
Digital Cable
ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
CableCARD
(Top of card faces right)
INSERT THIS END
CableCARD
INPUT 2
INPUT 1
Y/ VIDEO
Y/ VIDEO
PB
PR
MONITOR OUT
INPUT 4
INPUT 3
S-VIDEO
VIDEO
(MONO)
L
AUDIO
R
AUDIO TO HI-FI
TV AS CENTER
OPTICAL OUT Digital Audio
Upgrade Card
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C

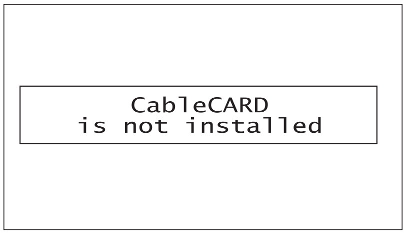

Models: 50VS810/60VS810
Digital Cable
ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
CableCARD
(Top of card faces right)
INSERT THIS END
CableCARD
INPUT 2
INPUT 1
Y/ VIDEO
Y/ VIDEO
PB
PR
MONITOR OUT
INPUT 4
INPUT 3
S-VIDEO
VIDEO
(MONO)
L
AUDIO
R
AUDIO TO HI-FI
TV AS CENTER
OPTICAL OUT Digital Audio
Upgrade Card
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C

If the CableCARD is properly installed or not installed, the TV will display the following respective screens.



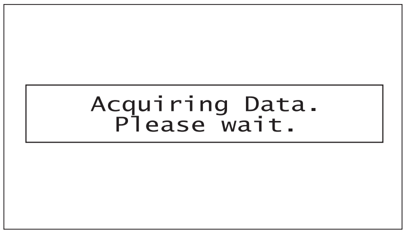
```
CableCARD is installed
```

OR

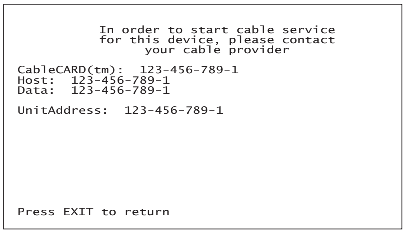


```
CableCARD
is not installed
```

After the CableCARD is installed, wait until the second screen below appears. The third screen below will appear if a channel is not authorized for viewing. Press the EXIT button to exit the second screen.



```
Acquiring Data.
 Please wait.
```



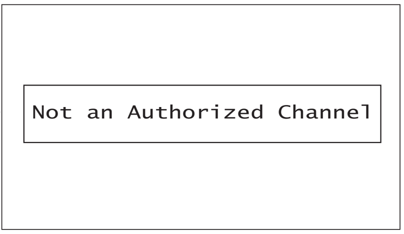
```
          In order to start cable service
          for this device, please contact
               your cable provider

CableCARD(tm):  123-456-789-1
Host:  123-456-789-1
Data:  123-456-789-1

UnitAddress:  123-456-789-1




Press EXIT to return
```

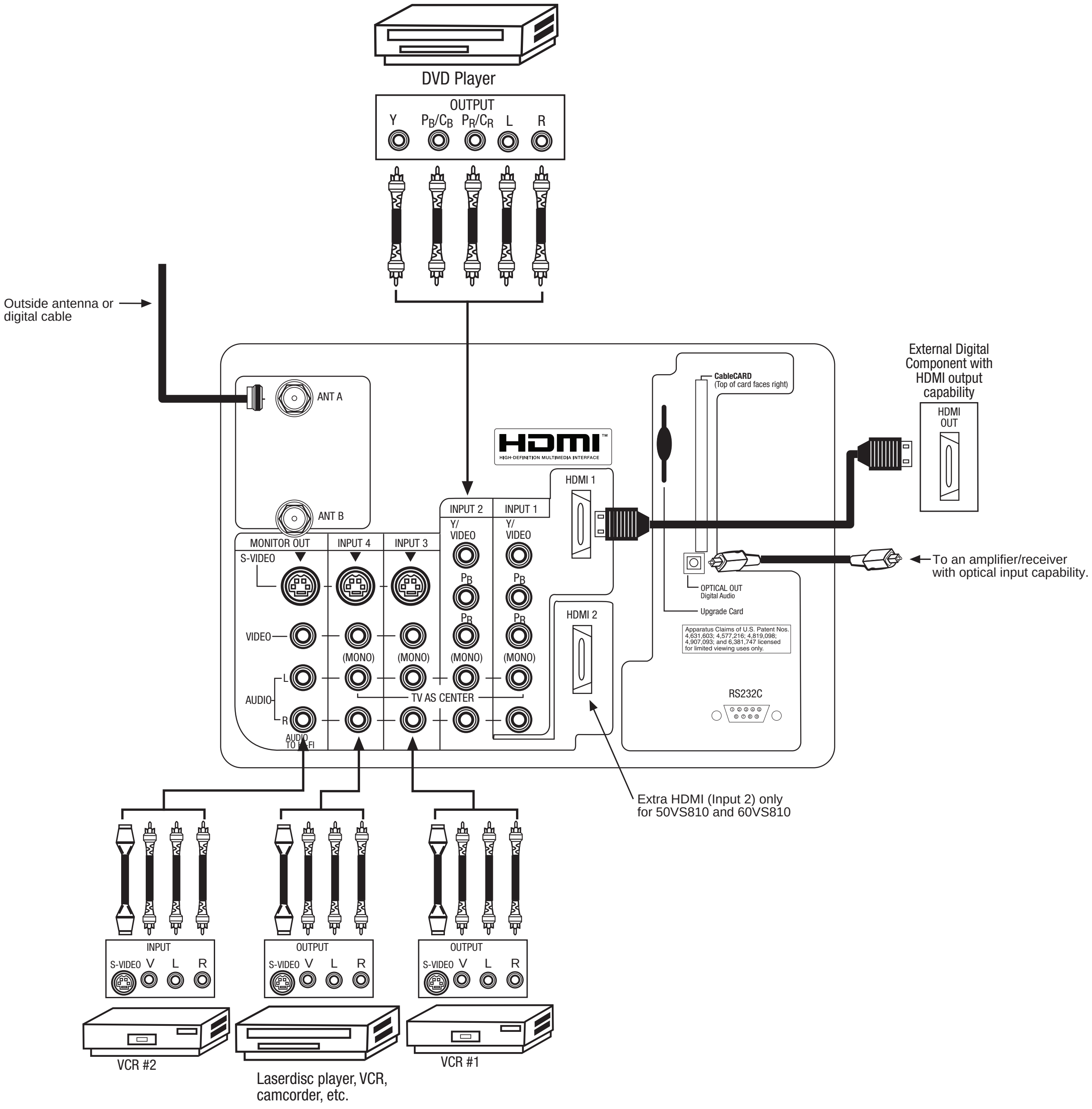


```
Not an Authorized Channel
```

Please take note of all information on the screen (you will provide this information to your cable operator). Call your cable operator and give them the information from the card to start your cable service.

NOTES:
1. A digital cable subscription is required.
2. Antenna B will not be available when CableCARD is inserted.
3. Do not insert a PCMCIA card into the CableCARD slot.

II. FEATURES AND FUNCTIONS
2.0 REAR PANEL JACKS (CONT.)


DVD Player
OUTPUT
Y
PB/CB
PR/CR
L
R
Outside antenna or digital cable
ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
MONITOR OUT
S-VIDEO
INPUT 4
INPUT 3
INPUT 2
INPUT 1
Y/ VIDEO
PB
PR
VIDEO
(MONO)
AUDIO
L
R
TV AS CENTER
AUDIO TO HI-FI
HDMI 1
HDMI 2
CableCARD
(Top of card faces right)
OPTICAL OUT
Digital Audio
Upgrade Card
Apparatus Claims of U.S. Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C
External Digital Component with HDMI output capability
HDMI OUT
To an amplifier/receiver with optical input capability.
Extra HDMI (Input 2) only for 50VS810 and 60VS810
INPUT
OUTPUT
S-VIDEO
V
L
R
VCR #2
Laserdisc player, VCR, camcorder, etc.
VCR #1

NOTES:
1. Connect only 1 component to each input jack.
2. Follow connections that pertain to your personal entertainment system.
3. Inputs 1 and 2 can accomodate Composite and Component video signals.
4. Cables are not included with the purchase of this TV, except when noted as “provided”.

II. FEATURES AND FUNCTIONS

2.0 REAR PANEL JACKS (CONT.)

- S-VIDEO, HDMI and component connections are provided for high performance laserdisc players, VCRs etc. that have this feature. Use these connections in place of the standard video connection if your device has this feature.

- If your device has only one audio output (mono sound), connect it to the left audio jack on the television.

- Refer to the operating guide of your other electronic equipment for additional information on connecting your hook-up cables.

- A single VCR can be used for VCR #1 and VCR #2, but note that a VCR cannot record its own video or line output. Refer to your VCR operating guide for more information on line input-output connections.

- You may use VIDEO or S-VIDEO inputs to connect to Input 3, Input 4 or Input 5, but only one of these may be used at a time.

- Connect only 1 component (VCR, DVD player, camcorder, etc.) to each input jack.

- COMPONENT: $Y\text{-}P_BP_R$ (Input 1 &2) connections are provided for high performance components, such as DVD players and set-top-boxes. Use these connections in place of the standard video connection if your device has this feature.

- Your component outputs may be labeled Y, B-Y, and R-Y. In this case, connect the components B-Y output to the TV's P_B input and the components R-Y output to the TV's P_R input.

- Your component outputs may be labeled $Y\text{-}C_BC_R$. In this case, connect the components C_B output to the TV's P_B input and the components C_R output to the TV's P_R input.

- It may be necessary to adjust TINT to obtain optimum picture quality when using the $Y\text{-}P_BP_R$ inputs.

- To ensure no copyright infringement, the MONITOR OUT output may be abnormal, when using the $Y\text{-}P_BP_R$ jacks.

- When using HDMI or DVI input from a Set-Top-Box, it is recommended to use a 1080i or 720p input signal.

II. FEATURES AND FUNCTIONS

3.0 LAMP REPLACEMENT

Lamp Life

The lamp life may vary based on usage of the LCD Rear PTV. Turning on and off frequently may shorten the life of the lamp.

Lamp Replacement

After extended use, if the TV picture turns dark, the color looks unusual or LAMP INDICATOR light turns on, then it is time to replace the lamp with a new lamp.

WARNING:

The lamp gets very hot! The lamp may explode if improperly handled. To avoid injury, please observe the following precautions.

- Do not open lamp compartment or attempt to remove lamp assembly unless the lamp assembly is being replaced.
- Unplug the product's power cord from the AC outlet before attempting to replace the lamp assembly.
- If the lamp is in use when failure occurs or if the lamp has exploded, wait at least 30-45 minutes for the lamp to cool before opening the lamp compartment or touching the lamp assembly or any broken pieces.
- Broken lamp pieces can cause injury. Handle with gloves to avoid cuts.
- Do not place any foreign objects inside the lamp compartment.
- When installing a new lamp, follow handling instruction included with the new lamp. Do not touch glass surface of new lamp.
- This product contains lead and a lamp that contains mercury. Dispose of this product and its lamp in accordance with applicable environmental laws. For lamp recycling and disposal information, go to www.lamprecycle.org. For product recycling and disposal information, contact your local government agency or the Electronic Industries Alliance at www.eiae.org (in the US) or the Electronic Product Stewardship Canada at www.epsc.ca (in Canada). For more information, call "1-800-HITACHI."

CAUTION!

A "LAMP" indicator will light when lamp becomes hot. Unplug product's power cord from the AC outlet and allow lamp to cool for at least 30-45 minutes. If "LAMP" indicator is still lit, please contact your authorized service center.

NOTES:

- Contact your Hitachi dealer for a new lamp unit. Using other lamps may cause damage to the TV Set.

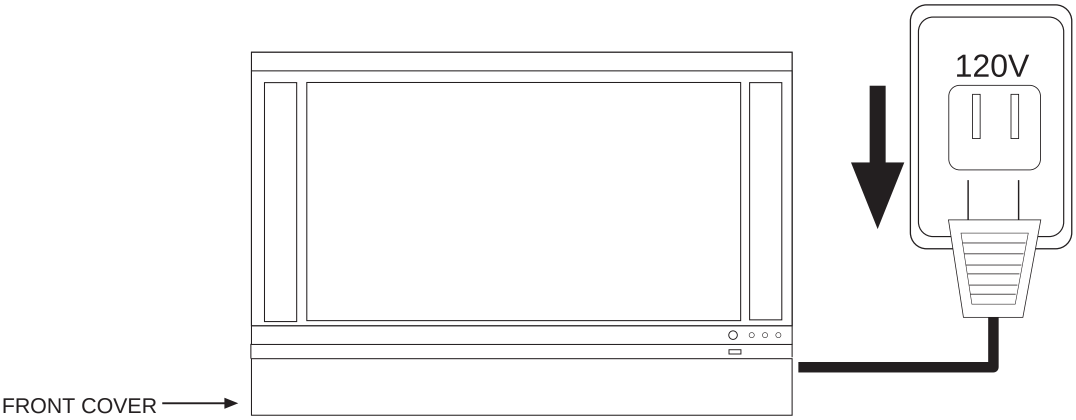
LAMP TYPE:	**LCD PTV Model No.:**
LM500	42V710/715, 50V710/715, 60V710/715
LM700	50/60/70VS810

- When replacing the lamp, let it cool down completely, for approximately 30 to 45 minutes after the power has been switched off and A.C. cord has been unplugged.
- Do not touch the glass of the new lamp or make it dirty which can shorten the life of the lamp and reduce the picture quality.
- Keep the lamp out of the reach of children and away from flammable materials.
- Do not pour water onto the removed lamp or put any object inside the lamp.
- Once the lamp is removed, do not put flammable materials and metal objects inside the lamp receptacle on the TV set. Do not touch the receptacle.
- Install the new lamp securely, otherwise the picture may become dark or it may cause severe overheating.
- Install the lamp cover correctly, otherwise power will not come on.
- This product contains lead and a lamp that contains mercury. Dispose of this product and its lamp in accordance with applicable environmental laws. For lamp recycling and disposal information, go to www.lamprecycle.org. For product recycling and disposal information, contact your local government agency or the Electronic Industries Alliance at www.eiae.org (in the US) or the Electronic Product Stewardship Canada at www.epsc.ca (in Canada).
  For more information, call "1-800-HITACHI."

BACK TO ADJUSTMENTS

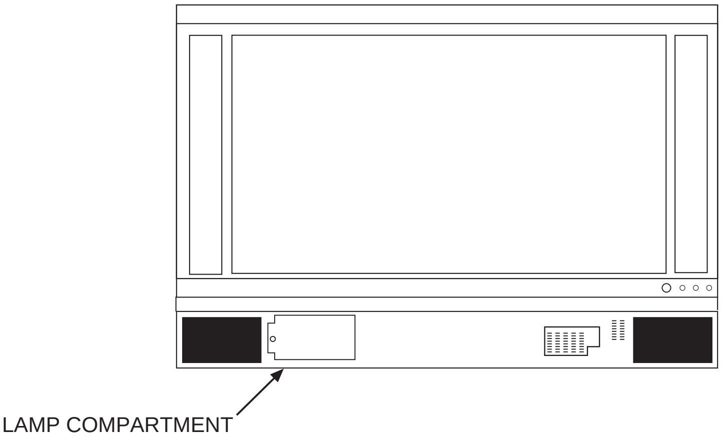
3.0 LAMP REPLACEMENT

1. Turn off the main power switch and unplug the power cord. Wait at least 30 minutes to allow the lamp to cool down before replacing it.



NOTE: THE LAMP IS VERY HOT AND MAY CAUSE FIRE OR SEVERE BURNS. WAIT AT LEAST 30~45 MINUTES TO ALLOW THE LAMP TO COOL BEFORE PROCEEDING WITH LAMP REMOVAL.

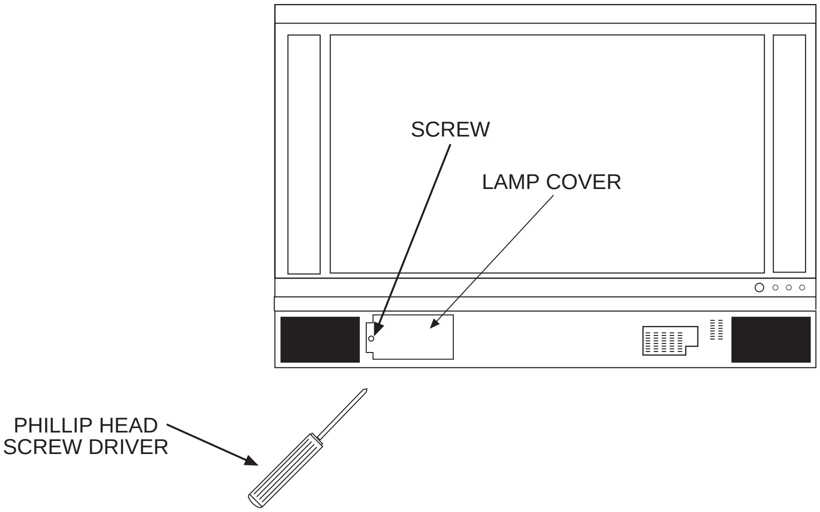
2. Remove the front cover from the TV set. This is held by a snap on. Pull the front cover outwards until the quick snap on disengages.



NOTE: This product contains lead and a lamp that contains mercury. Dispose of this product and its lamp in accordance with applicable environmental laws. For lamp recycling and disposal information, go to www.lamprecycle.org. For product recycling and disposal information, contact your local government agency or the Electronic Industries Alliance at www.eiae.org (in the US) or the Electronic Product Stewardship Canada at www.epsc.ca (in Canada).
For more information, call “1-800-HITACHI.”

3.0 LAMP REPLACEMENT

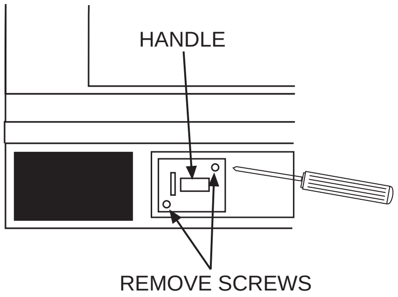
3. Remove the screw securing the lamp cover with a Phillips head screw driver as shown. Remove the lamp cover.

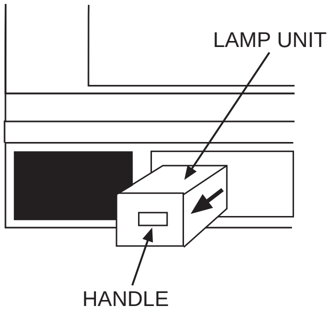

SCREW
LAMP COVER
PHILLIP HEAD
SCREW DRIVER

NOTE: THE LAMP IS VERY HOT AND MAY CAUSE FIRE OR SEVERE BURNS. WAIT AT LEAST 30~45 MINUTES TO ALLOW THE LAMP TO COOL BEFORE PROCEEDING WITH LAMP REMOVAL.

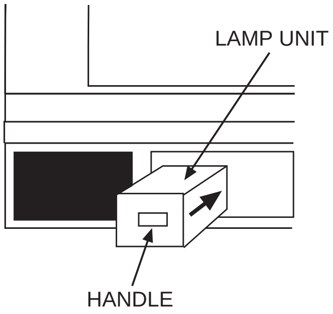
4. Remove the two screws that hold the lamp in place. Remove the lamp unit by holding the lamp handle, then pulling outwards. Exercise caution when removing the lamp unit to avoid injury to your fingers.

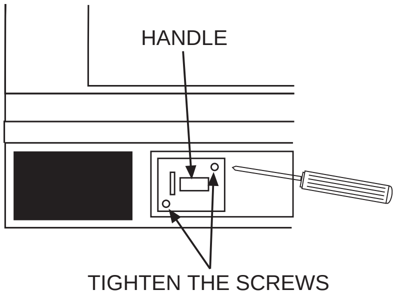
NOTE: DO NOT PUT YOUR HAND IN THE LAMP STORAGE AREA AFTER THE LAMP UNIT IS REMOVED, YOU MAY GET BURNED.


HANDLE
REMOVE SCREWS


LAMP UNIT
HANDLE

5. Replace with the new lamp.
   Place the removed lamp into the empty box of the replacement lamp. Do not touch the front glass of the new lamp or its receptacle. This may shorten the life of the lamp and reduce the picture quality.
   - Push the lamp unit back to its original position.
   - Tighten the screws firmly on the lamp unit. If they are loose, the TV may not operate correctly.

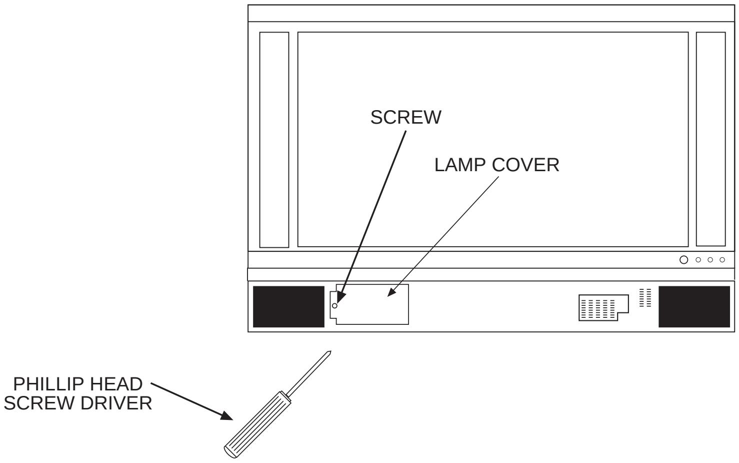

LAMP UNIT
HANDLE


HANDLE
TIGHTEN THE SCREWS

II. FEATURES AND FUNCTIONS

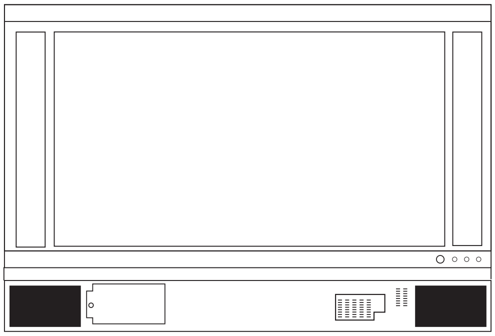
3.0 LAMP REPLACEMENT (CONT.)

6. Without installing the lamp cover, the power will be off and the Lamp Indicator will flash. Be sure to install the lamp cover by re-engaging the two clips and tighten the screws before turning the power on, otherwise it may cause unusual colors.

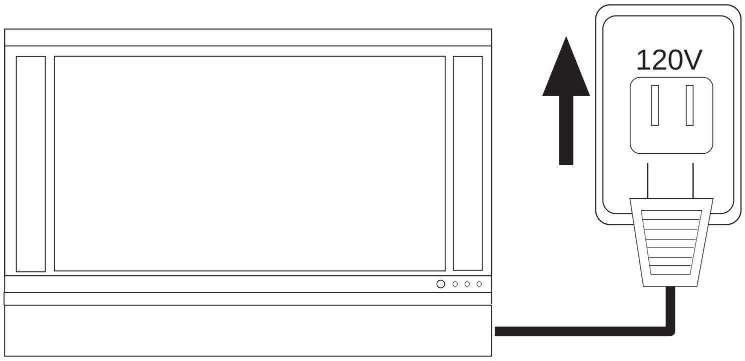


NOTE: IF POWER IS CONNECTED BEFORE THE LAMP COVER IS INSTALLED, THE POWER WILL BE OFF AND THE LAMP INDICATOR WILL FLASH.

7. Install the front cover as shown below. Put the front cover back in and align the snap on quick connect then push inwards holding the left and right side of the front cover until you hear a snap. Push the other snap on gently to make a good fit.



8. Plug power cord into AC outlet and turn on the main power switch.

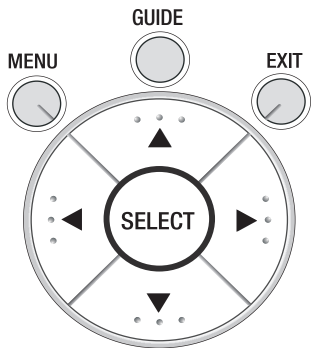


NOTE: This product contains lead and a lamp that contains mercury. Dispose of this product and its lamp in accordance with applicable environmental laws. For lamp recycling and disposal information, go to www.lamprecycle.org. For product recycling and disposal information, contact your local government agency or the Electronic Industries Alliance at www.eiae.org (in the US) or the Electronic Product Stewardship Canada at www.epsc.ca (in Canada).
For more information, call “1-800-HITACHI.”

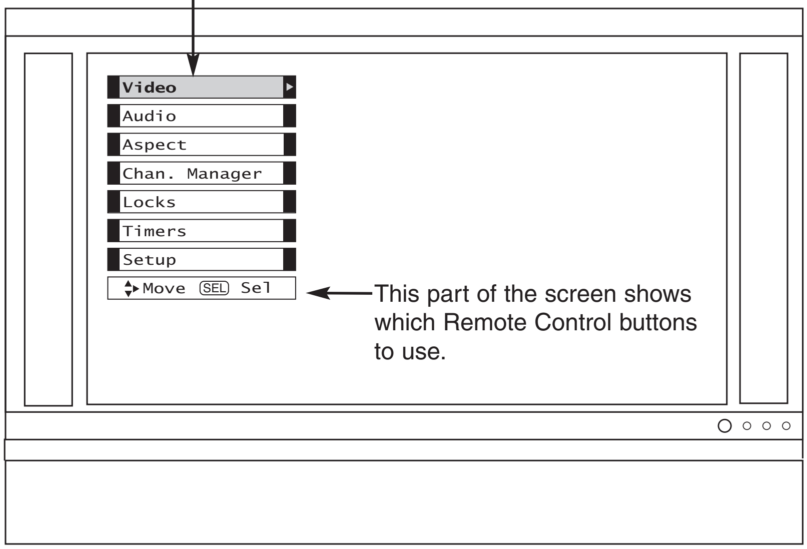
II. FEATURES AND FUNCTIONS

4.0 ON-SCREEN-DISPLAY FEATURES

1. Press MENU on the remote control to display the different features on your HITACHI LCD TV.
2. Press the CURSOR PAD to highlight a different feature.
3. Press EXIT on the remote control to quickly exit from a menu.


GUIDE
MENU
EXIT
SELECT

This part of the screen shows which selections are available.


Video
Audio
Aspect
Chan. Manager
Locks
Timers
Setup
Move SEL Sel

This part of the screen shows which Remote Control buttons to use.

BACK TO ADJUSTMENTS

II. FEATURES AND FUNCTIONS

4.0 ON-SCREEN-DISPLAY FEATURES

Video →

Picture Mode	Select between the two picture modes; Day and Night.
Contrast	Adjust contrast.
Brightness	Adjust brightness.
Color	Adjust color.
Tint	Adjust tint.
Sharpness	Adjust sharpness.
Color Temperature	Set this to High for less intense color with more blue, set to Medium for natural color, set to Standard for standard colors or Black and White for more reddish color.
Black Enhancement	Adjust shadow detail in dark screens.
Contrast Mode	Choose Automatic Contrast setttings.
Reset Video Settings	Choose the Reset Video settings.
Color Management	Adjust and balance individual colors to make either deeper or more pure according to preference.
Color Decoding	Adjust the percentage of Red, Green and Color according to preference.
Auto Color	The AUTO COLOR function automatically monitors and adjusts the color to maintain constant color levels even after a program or channel changes. It also maintains natural flesh tones while preserving fidelity of background colors.
Noise Reduction	Reduces conspicuous noise in the picture.
Auto Movie Mode	Turn ON/OFF the 3:2 Pulldown detection feature.

Audio →

Treble	Adjust the treble.
Bass	Adjust the bass.
Balance	Adjust the balance.
SRS	Select SRS settings (Off, Wide, Normal)
BBE	Select BBE settings (Off, Soft, Hard)
Audio Source	Select between three Audio Sources.
Internal Speakers	Select internal or external speakers.
Auto Noise Cancel	Eliminates the noise between stations.
Perfect Volume	Adjust volume in fixed setting.
Loudness	Adjust Loudness.
Language	Select Language options if available.
Digital Output	Select Optical Output options.
DRC	Select Dynamic Range Compression to ON or OFF.

Aspect →

4:3 Standard	Choose the picture format aspect ratio.
4:3 Expanded	
4:3 Zoom 1	
4:3 Zoom 2	
16:9 Standard	
16:9 Zoom	

NOTE: The Language, Digital Output, and the Dynamic Range Compression feature of the Audio OSD are only available for Digital channels.

II. FEATURES AND FUNCTIONS

4.0 ON-SCREEN-DISPLAY FEATURES

Channel Manager	Set the Antenna	Set Antenna settings.
	Auto Channel Scan	Set Auto Channel Scan.
	Signal Meter	Access Signal Meter.
	Channel List	Set Channel List.
Locks	Change Access Code	Change Lock access code.
	Engage Lock	Choose to lock channel, video input, and/or front panel.
	TV Time Lock	Set specific time to Lock TV.
	Movie Ratings	Block various types of movies and video types based on motion picture ratings.
	TV Ratings	Block various types of movies and television programming based on a parental guide ratings.
	Canadian Ratings (ENG)	Block various types of movies and television programming based on the Canadian ratings system.
	Canadian Ratings (FRN)	Block various types of movies and television programming based on the Canadian French ratings system.
Timers	Set the Clock	Set Clock Settings.
	Set Sleep Timer	Set Sleep Timer intervals (30 min. intervals, 00:30-3:00).
	Set Day/Night Timer	Set Day/Night picture mode settings.
	Set Event Timer	Set viewing reservation for TV programs.
	Set Auto Power Off	Set TV to turn off automatically when a video signal is not detected for 15 minutes.
Setup	Menu Preference	Choose English, French, or Spanish text.
	Screen Saver	Set the Screen Saver.
	Set The Inputs	Label Video Inputs , VCR, DVD, etc.
	Set Virtual HD	Select between 1080i and 540p signal.
	Set Black Side Panel	Set the gray side bars on/off when watching 4:3 signals in standard mode.
	Set Closed Captions	Feature to display dialogue/text.
	Set Monitor Out	Set Monitor Out source.
	CableCARD Info	Select to access CableCARD information.
	Set AV Control	Select to set RS232C feature.
	Upgrades	Select to upgrade TV software.
	Quick Start Up	Select the TV Quick Start Up options.

NOTES:
1. The Signal Meter feature of the Channel Manager OSD is only available for ATSC signals.
2. The CableCARD information feature of the Setup OSD is only available when a CableCARD from your cable operator is installed in the rear panel of the TV.

II. FEATURES AND FUNCTIONS

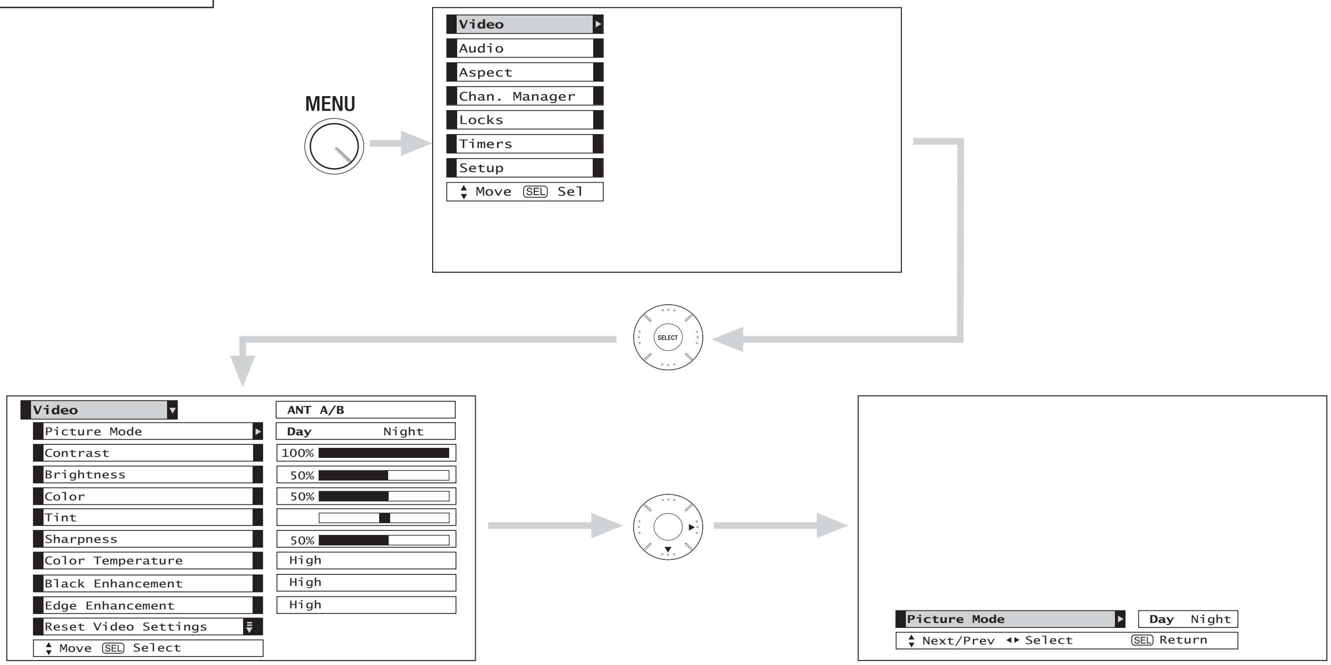
4.1 VIDEO SETTING

Video

Select VIDEO to adjust picture settings and improve picture quality. You can independently customize each of the Video Inputs to your preference to increase viewing performance and pleasure depending upon the video program being viewed. If RESET is selected, only the selected input will reset to initial conditions.

Picture Mode

Use this function to choose from automatic picture settings to optimize your TV's performance.


MENU
Video
Audio
Aspect
Chan. Manager
Locks
Timers
Setup
Move SEL Sel
SELECT
Video
ANT A/B
Move SEL Select
Picture Mode
Day Night
Next/Prev Select
SEL Return

Picture Mode	Day Night
Contrast	100%
Brightness	50%
Color	50%
Tint	
Sharpness	50%
Color Temperature	High
Black Enhancement	High
Edge Enhancement	High
Reset Video Settings	

Use CURSOR PAD ◀ or ▶ to highlight and select Picture Mode settings.

Function	Day	Night	Reset
Contrast	100%	70%	Reset the video menu settings on current input to the Day or Night conditions depending on the selected VIDEO mode.
Brightness	50%	55%	
Color	50%	50%	
Tint	50%	50%	
Sharpness	50%	40%	
Color Temperature	High	Standard	
Black Enhancement	Middle	Low	
Edge Enhancement	High	Low	
Auto Color	Off	Off	
Noise Reduction	Off	Off	
Color Management (Set User Colors)	Off	Off	
Auto Movie Mode (TV/Cinema Detection)	Off	Off	

Press EXIT to quit menu or select PICTURE MODE to return to previous menu.

BACK TO ADJUSTMENTS

II. FEATURES AND FUNCTIONS

4.1 VIDEO SETTING

Use the CURSOR PAD ▲ or ▼ to highlight the function to be adjusted.
Press the CURSOR PAD ◀ or ▶ to adjust the function. Press the SELECT button to select the function settings.
Press MENU to return to main menu or select PICTURE MODE to return to previous menu.
Press EXIT to quit menu.

Contrast	Use this function to change the contrast between black and white levels in the picture.
Brightness	Use this function to adjust overall picture brightness.
Color	Use this function to adjust the level of color in the picture.
Tint	Use this function to adjust flesh tones so they appear natural.
Sharpness	Use this function to adjust the amount of fine detail in the picture. Sharpness function will be disabled when Noise Reduction is on.
Color Temperature	Set this to High for cooler color with more blue, set to Medium for more natural color, set to Standard for accurate color or set to Black/White for more reddish color.
Black Enhancement	Use this function to enhance the shadow detail in dark scenes using the settings off, low, middle and high.
Edge Enhancement	Use this function to automatically enhance the edges between light and dark areas using the settings Off, Low, Middle and High.

NOTES:

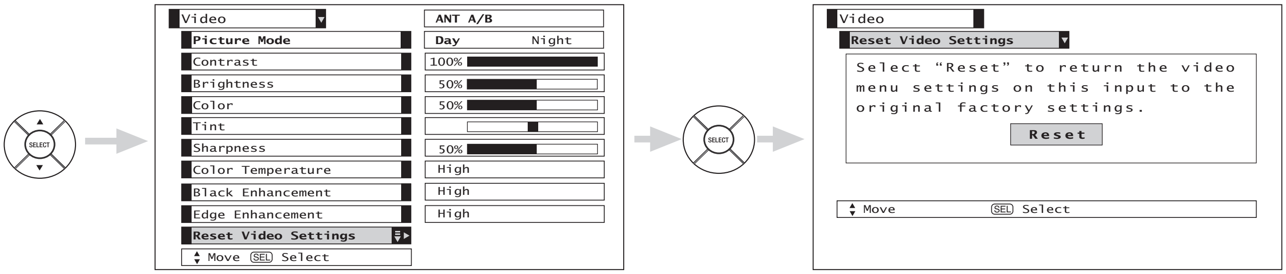
1. If CONTRAST is selected, you are adjusting CONTRAST. The additional menu items BRIGHTNESS, COLOR, TINT, and SHARPNESS can be selected and adjusted in the same manner.
2. Contrast will decrease automatically if stationary images such as digital photos are left on the screen for more than 3 minutes.
3. It may be necessary to adjust TINT to obtain optimum picture quality when using the COMPONENT VIDEO $Y\text{-}P_BP_R$ input jacks.
4. If you are using the COMPONENT VIDEO input jacks ($Y\text{-}P_BP_R$) and notice that the TINT and COLOR are abnormal, check to make sure that the VIDEO-Color System is set properly.
5. ANT A and B share a Video setting. Also, each of the video inputs have their own independent settings.
6. If CONTRAST is set to minimum level, the On-Screen Display (OSD) will be difficult to see.

II. FEATURES AND FUNCTIONS

4.1 VIDEO SETTING

Reset Video Settings

This function allows you to Reset the Video Menu Settings of the present input and return it to the Day VIDEO mode.



Video	ANT A/B
Picture Mode	Day Night
Contrast	100%
Brightness	50%
Color	50%
Tint	
Sharpness	50%
Color Temperature	High
Black Enhancement	High
Edge Enhancement	High
Reset Video Settings	

Video
Reset Video Settings

Select “Reset” to return the video menu settings on this input to the original factory settings.

Reset

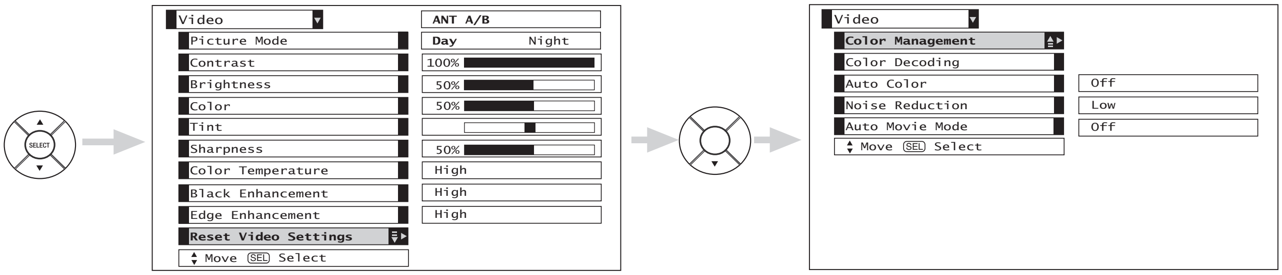
Move SEL Select

Use CURSOR PAD to highlight functions.
Press the SELECT button to select Reset Video Settings.

Use the CURSOR PAD ▼ to access other video settings.

You can customize each of the Video Inputs to your preference to increase viewing performance and pleasure, depending upon the video program being viewed. If RESET is selected, only the selected Input will reset to the initial conditions as explained above.

If RESET is selected in Video:1 Input, only Video:1 Input will return to factory conditions.

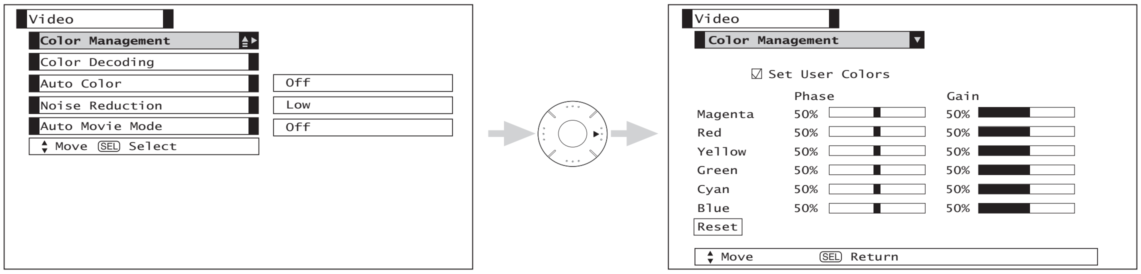


Video	ANT A/B
Picture Mode	Day Night
Contrast	100%
Brightness	50%
Color	50%
Tint	
Sharpness	50%
Color Temperature	High
Black Enhancement	High
Edge Enhancement	High
Reset Video Settings	

Video	
Color Management	
Color Decoding	
Auto Color	Off
Noise Reduction	Low
Auto Movie Mode	Off

Color Management

Use this function to adjust and balance the listed individual colors to make them either deeper or more pure depending on the user’s preference. Adjust the GAIN settings to make the color brighter (+) or darker (-). Adjust the PHASE settings to make the colors deeper (+) or normal (-) to match real life colors.



Video	
Color Management	
Color Decoding	
Auto Color	Off
Noise Reduction	Low
Auto Movie Mode	Off

Video
Color Management

☑ Set User Colors

	Phase	Gain
Magenta	50%	50%
Red	50%	50%
Yellow	50%	50%
Green	50%	50%
Cyan	50%	50%
Blue	50%	50%

Reset

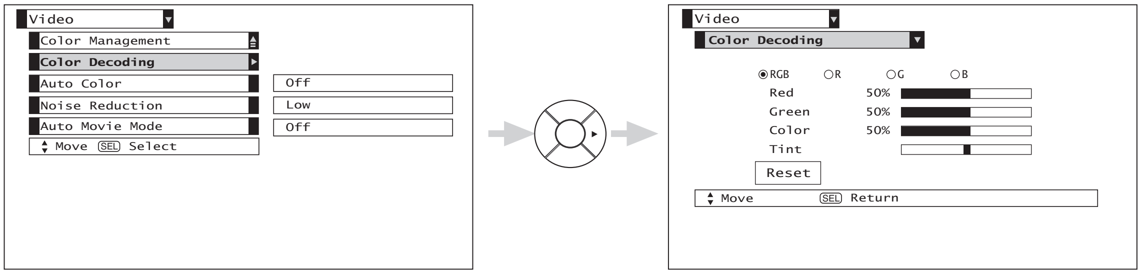
Use the CURSOR PAD to highlight function.
Press the SELECT button to select User Colors setting. When the function has a “√” in the box, it is ON.
Press the CURSOR PAD ◀, ▶, ▼, ▲, to highlight and adjust individual colors.
Use the CURSOR PAD to highlight and select “Reset” to return all colors to default settings.

II. FEATURES AND FUNCTIONS

4.1 VIDEO SETTING

Color Decoding

Use this function to adjust and balance the percentage of Red, Green and Blue according to the user's preference in each of the four color temperature settings. Use TINT to adjust flesh tones so they appear natural.



Auto Color Off
Noise Reduction Low
Auto Movie Mode Off

Red 50%
Green 50%
Color 50%
Tint

Use the CURSOR PAD to highlight function.
Press down to select from 4 menu items.
Press the CURSOR PAD ◀, ▶, ▼, ▲, to highlight and adjust Red, Green, Color and Tint.
Use the CURSOR PAD to highlight and select "Reset" to return all settings to default.

NOTE: Color Decoding settings are independently stored in each of the 4 Color Temperature settings.

Auto Color

The AUTO COLOR function automatically monitors and adjusts the color to maintain constant color levels even after a program or channel changes. It also maintains natural flesh tones while preserving fidelity of background colors.

NOTES:
1. When using Component, HDMI or DVI input, Auto Color will not be available (grayed out).
2. When using digital channels, Auto Color will not be available (grayed out).

Noise Reduction

The NOISE REDUCTION function automatically reduces conspicuous noise in the picture without degrading picture quality. Set NOISE REDUCTION to OFF if the TV experiences picture blocking. When Noise Reduction is ON, Sharpness function is disabled (grayed out).

Auto Movie Mode

The Auto Movie Mode function turns ON or OFF the 3:2 PULLDOWN DETECTION SPECIAL FEATURE. Theatrical movies are shot on film at 24 frames or still pictures per second, instead of 30 frames or 60 fields like video. When film is transferred to video for television viewing, the disparity between the two frame rates must be reconciled. This involves a process known as 3:2 pulldown.

When Auto Movie Mode is turned ON from the VIDEO menu, your Hitachi Projection Television will activate the circuitry for this special feature to improve video performance when watching film based sources.

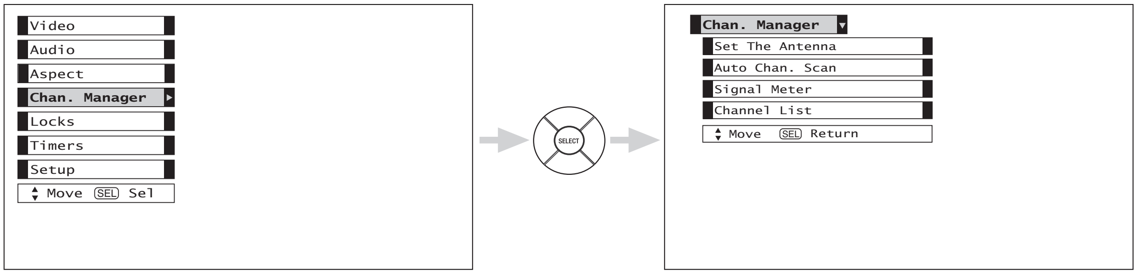
NOTES:
1. When using Progressive Scan Component, HDMI or DVI input (Ex. 480p, 720p, 1080i), Auto Movie Mode will not be available (grayed out).
2. All Video settings are independent of each other based on it's input (ANT A/B, Input 1~5, Photo Input).

II. FEATURES AND FUNCTIONS

4.2 CHANNEL MANAGER

Chan. Manager

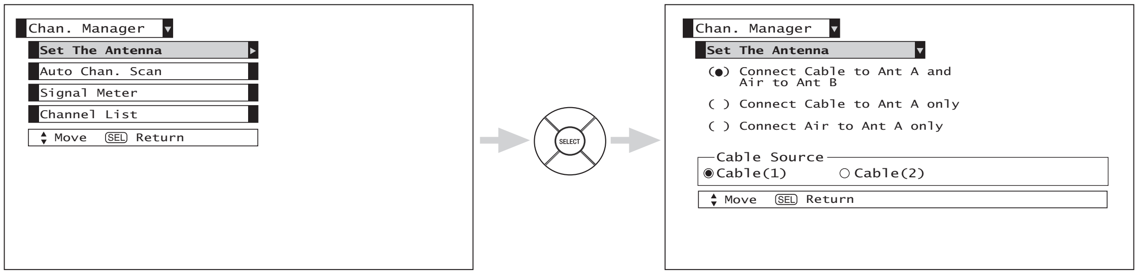
Select Channel Manager to set your Antenna options, run Auto Channel Scan, Check Signal Meter and Set Channel List.


Video
Audio
Aspect
Chan. Manager
Locks
Timers
Setup
Move SEL Sel
SELECT
Chan. Manager
Set The Antenna
Auto Chan. Scan
Signal Meter
Channel List
Move SEL Return

Press CURSOR PAD ▲, ▼ to highlight function, the press the SELECT button to select.

Set The Antenna

This feature will select Antenna options.

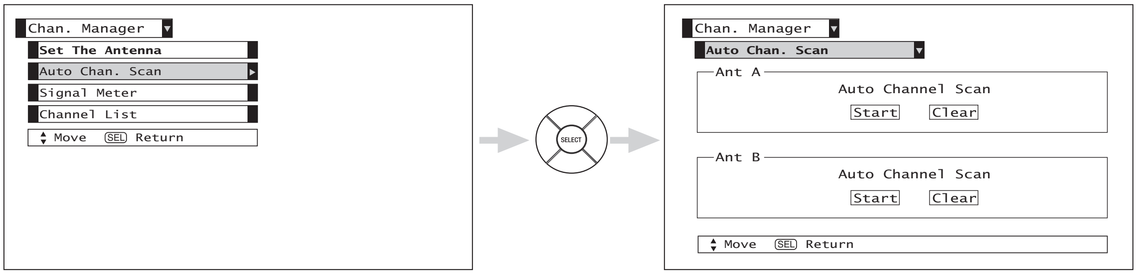

Chan. Manager
Set The Antenna
Auto Chan. Scan
Signal Meter
Channel List
Move SEL Return
SELECT
Chan. Manager
Set The Antenna
(●) Connect Cable to Ant A and Air to Ant B
( ) Connect Cable to Ant A only
( ) Connect Air to Ant A only
Cable Source
◉ Cable(1)
○ Cable(2)
Move SEL Return

Press CURSOR PAD ▲, ▼ to highlight function, the press the SELECT button to select.

NOTE:	When a CableCARD is installed, antenna settings will be set automatically to “Connect Cable to Ant A only”.

Auto Channel Scan

This feature will automatically store active TV channels in Auto Channel Scan memory.


Chan. Manager
Set The Antenna
Auto Chan. Scan
Signal Meter
Channel List
Move SEL Return
SELECT
Chan. Manager
Auto Chan. Scan
Ant A
Auto Channel Scan
Start
Clear
Ant B
Auto Channel Scan
Start
Clear
Move SEL Return

Press CURSOR PAD ▲, ▼, ◀, ▶ to highlight Ant A or Ant B.
Press CURSOR PAD ◀, ▶ to highlight the Start or Clear option.
Press the SELECT button to select.

NOTE:	When a CableCARD is installed, Auto Channel Scan will not be available.

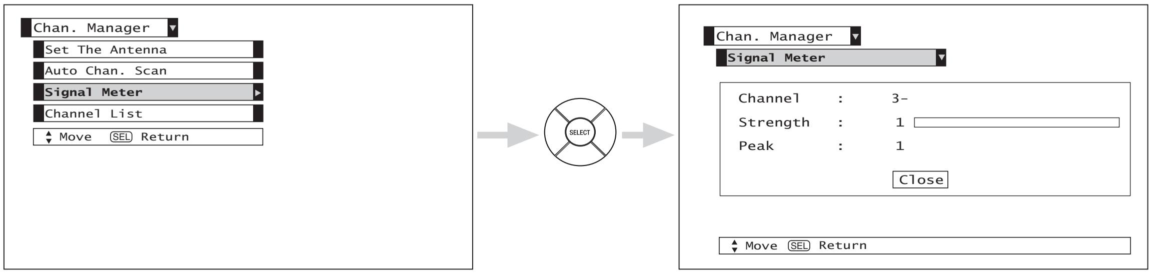
BACK TO ADJUSTMENTS

II. FEATURES AND FUNCTIONS

4.2 CHANNEL MANAGER (CONT.)

Signal Meter

Select Signal Meter when using an indoor or outdoor antenna. This feature will show the signal strength and peak values of the Antenna signal to help you adjust your antenna to optimize signal reception.


Chan. Manager
Set The Antenna
Auto Chan. Scan
Signal Meter
Channel List
Move SEL Return
SELECT
Chan. Manager
Signal Meter
Close
Move SEL Return

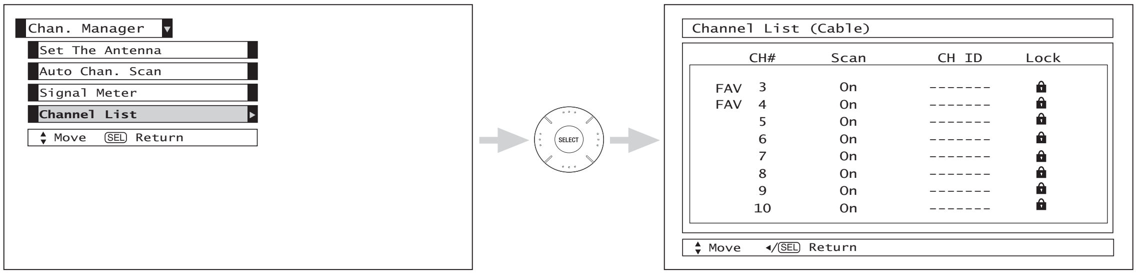
Channel : 3-
Strength : 1
Peak : 1

Use the CURSOR PAD and the SELECT button to highlight and select “close” to exit.

NOTE: The Signal Meter will not be available (grayed out) when watching analog channels.

Channel List

This function allows you to review which channels are labeled (CH ID), which have been added to Channel Memory (SCAN), which are protected by LOCK and which are your Favorite (FAV) Channels.


Chan. Manager
Set The Antenna
Auto Chan. Scan
Signal Meter
Channel List
Move SEL Return
SELECT
Move ◄/SEL Return

Channel List (Cable)

	CH#	Scan	CH ID	Lock
FAV	3	On	-------	🔒
FAV	4	On	-------	🔒
	5	On	-------	🔒
	6	On	-------	🔒
	7	On	-------	🔒
	8	On	-------	🔒
	9	On	-------	🔒
	10	On	-------	🔒

Use the CURSOR PAD to navigate the Channel List.
Press the CURSOR PAD (▲, ▼) to select On or Off on the Scan column.
Press the EXIT button to return to normal viewing.

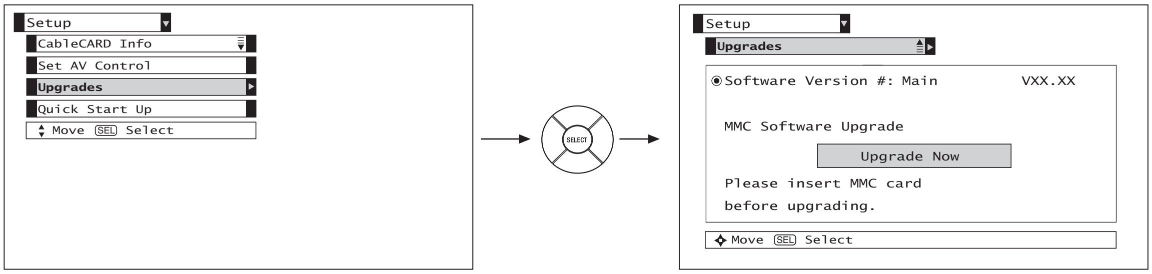
NOTE: When a CableCARD is installed, the Channel List will be dependent on channels agreed upon by you and your cable operator.

II. FEATURES AND FUNCTIONS

4.3 SET-UP - UPGRADES

Upgrades

It shows software information and easy upgrade procedure. This function allows the TV software to be upgraded by using a flash card (MMC Card). If a future software upgrade is required for your TV, Hitachi will notify and provide you with a flash card. In order to receive written notification and the flash card, please complete and return the warranty card.


Setup
CableCARD Info
Set AV Control
Upgrades
Quick Start Up
Move SEL Select
SELECT
Setup
Upgrades
Upgrade Now
Move SEL Select

Software Version #: Main VXX.XX

MMC Software Upgrade

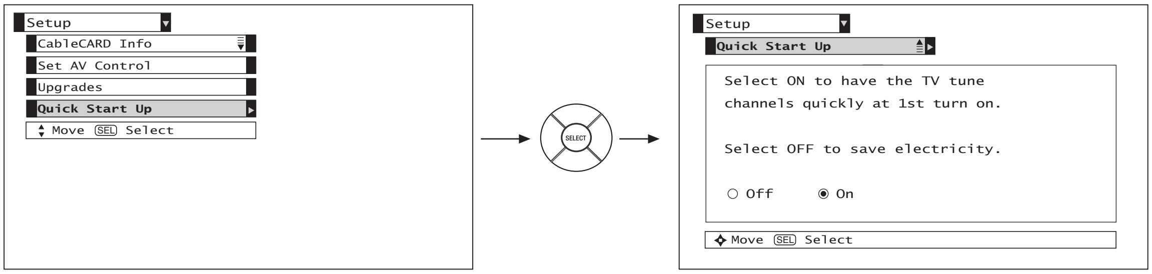
Please insert MMC card before upgrading.

Insert MMC card, then press the CURSOR PAD ▲, ▼ to highlight “Upgrade Now”. Press the SELECT button to select and start upgrading.

NOTE: Any power interruption during the upgrade process will cancel the upgrade. When this happens, repeat the upgrade procedure.

Quick Start Up

This feature will select Quick Start Up options. Set this feature to ON to have the TV tune channels (both Analog and Digital) quickly when first turning the TV on. Set this feature to OFF to save electricity. Selecting ON for the Quick Start Up feature will activate the TV tuners circuits when the TV is in “standby mode” which is commonly referred to as “off”. This will allow you to quickly tune to channels when first turning the TV on. Digital signals often change and this feature will monitor any changes and prepare the television to quickly present a picture. A small amount of electricity is used to continually monitor signals when this feature is selected.


Setup
CableCARD Info
Set AV Control
Upgrades
Quick Start Up
Move SEL Select
SELECT
Setup
Quick Start Up
Move SEL Select

Select ON to have the TV tune channels quickly at 1st turn on.

Select OFF to save electricity.

○ Off ● On

III. ASSEMBLED P.W.B. ADJUSTMENT

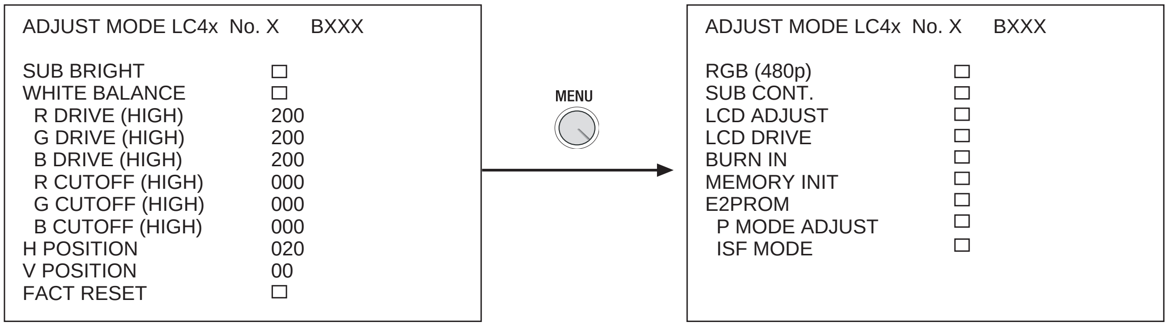
1.0 Memory Initialization

Adjustment Procedure

(1) Enter I^{2}C mode from the front panel by pressing and holding the INPUT and the POWER button for two seconds, then release.
Note: When entering the I^{2}C menu mode, make sure to wait about two minutes after power off.

(2) Receive signal on the main picture. (NTSC, SDTV or HDTV).
Some menu pages have I^{2}C adjustments for SDTV and HDTV. The set will automatically allow you to set these items only when a SDTV or HDTV signal is input to the COMPONENT jacks on the back of the TV.

(3) Check the OSD according to I2C Parameter List, using ▲,▼ buttons on the Remote Control to scroll down to "Memory Init" and cursor right (▶) and hold for two seconds to enter the selected device.



```
ADJUST MODE LC4x  No. X     BXXX

SUB BRIGHT                  ☐
WHITE BALANCE               ☐
  R DRIVE (HIGH)            200
  G DRIVE (HIGH)            200
  B DRIVE (HIGH)            200
  R CUTOFF (HIGH)           000
  G CUTOFF (HIGH)           000
  B CUTOFF (HIGH)           000
H POSITION                  020
V POSITION                  00
FACT RESET                  ☐
```

```
ADJUST MODE LC4x  No. X     BXXX

RGB (480p)                  ☐
SUB CONT.                   ☐
LCD ADJUST                  ☐
LCD DRIVE                   ☐
BURN IN                     ☐
MEMORY INIT                 ☐
E2PROM                      ☐
  P MODE ADJUST             ☐
  ISF MODE                  ☐
```

(4) Press the EXIT button to exit I^{2}C ADJUST mode.

(5) Press the EXIT button button again to EXIT the I^{2}C menu.

III. ASSEMBLED P.W.B. ADJUSTMENT

2.0 Factory Preset

(1) Press Cursor right to select factory reset (Fact Reset) of the OSD and check that the set returns to delivery settings (CH 03).

(2) Do not unplug the set until this operation is completed and do not perform any key operation either, after this operation each setting is reset delivery settings automatically.

MEMORY INITIALIZE and FACTORY PRESET

ITEM	MEMORY INITIALIZE	FACTORY RESET	REMARKS
SUB BRIGHT ADJUST DATA (BRIGHTNESS DATA)	INITIALIZE	NOT INITIALIZE	
WHITE BALANCE ADJUST DATA (G DRV and others)	INITIALIZE	NOT INITIALIZE	
H POSITION ADJUST DATA	INITIALIZE	NOT INITIALIZE	
V POSITION ADJUST DATA	INITIALIZE	NOT INITIALIZE	
RGB (480p) ADJUST DATA	INITIALIZE	NOT INITIALIZE	
Sub-Contrast ADJUST DATA	INITIALIZE	NOT INITIALIZE	
PIP WHITE BAL ADJUST DATA	INITIALIZE	NOT INITIALIZE	
OSD POSITION SETTING DATA	INITIALIZE	NOT INITIALIZE	
SETTING DATA FOR EACH DEVICE	INITIALIZE	NOT INITIALIZE	
BBE EFFECT SETTING DATA	INITIALIZE	NOT INITIALIZE	
AUDIO AGC SETTING DATA	INITIALIZE	NOT INITIALIZE	
V CHIP RATING SETTING DATA	INITIALIZE	NOT INITIALIZE	
CCD SETTING DATA	INITIALIZE	NOT INITIALIZE	
FACTORY RESET ITEM	INITIALIZE	INITIALIZE	
LAMP TIME	INITIALIZE	INITIALIZE	
Accumulate TIME	INITIALIZE	NOT INITIALIZE	
GHOST ADJUST DATA	INITIALIZE	NOT INITIALIZE	
FLICKER ADJUST DATA (V.COM)	INITIALIZE	NOT INITIALIZE	
NRSH ADJUST DATA	INITIALIZE	NOT INITIALIZE	
COLOR UNIFORMITY	NOT INITIALIZE	NOT INITIALIZE	
GAMMA CORRECTION	NOT INITIALIZE	NOT INITIALIZE	
V.REF	NOT INITIALIZE	NOT INITIALIZE	

NOTE:

(1) If there is a different value than shown in I2C Parameter List, for fixed data, adjust it using ◀,▶ buttons (only in this case).

(2) When exchanging microprocessor and TV is turned on for first time, it requires initialization of Memory Initial of I²C. Enter to I²C Adjustment mode and reset Memory Initialize.

BACK TO ADJUSTMENTS

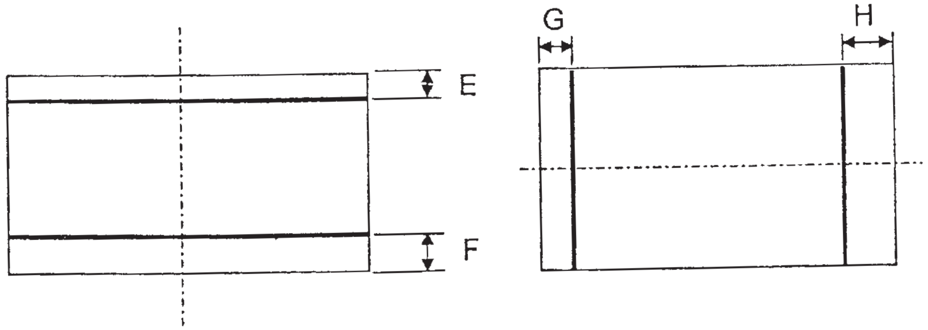
III. ASSEMBLED P.W.B. ADJUSTMENT

3.0 RASTER POSITION ADJUSTMENT

(1) Receive Circle pattern signal.
(2) Recall I2C Service menu.

(3) Select 'V POSITION' by using the cursor stick (▲/▼ direction) on handset. Adjust the horizontal picture position where |E-F| <= 6mm by using the cursor stick (◀/▶direction).

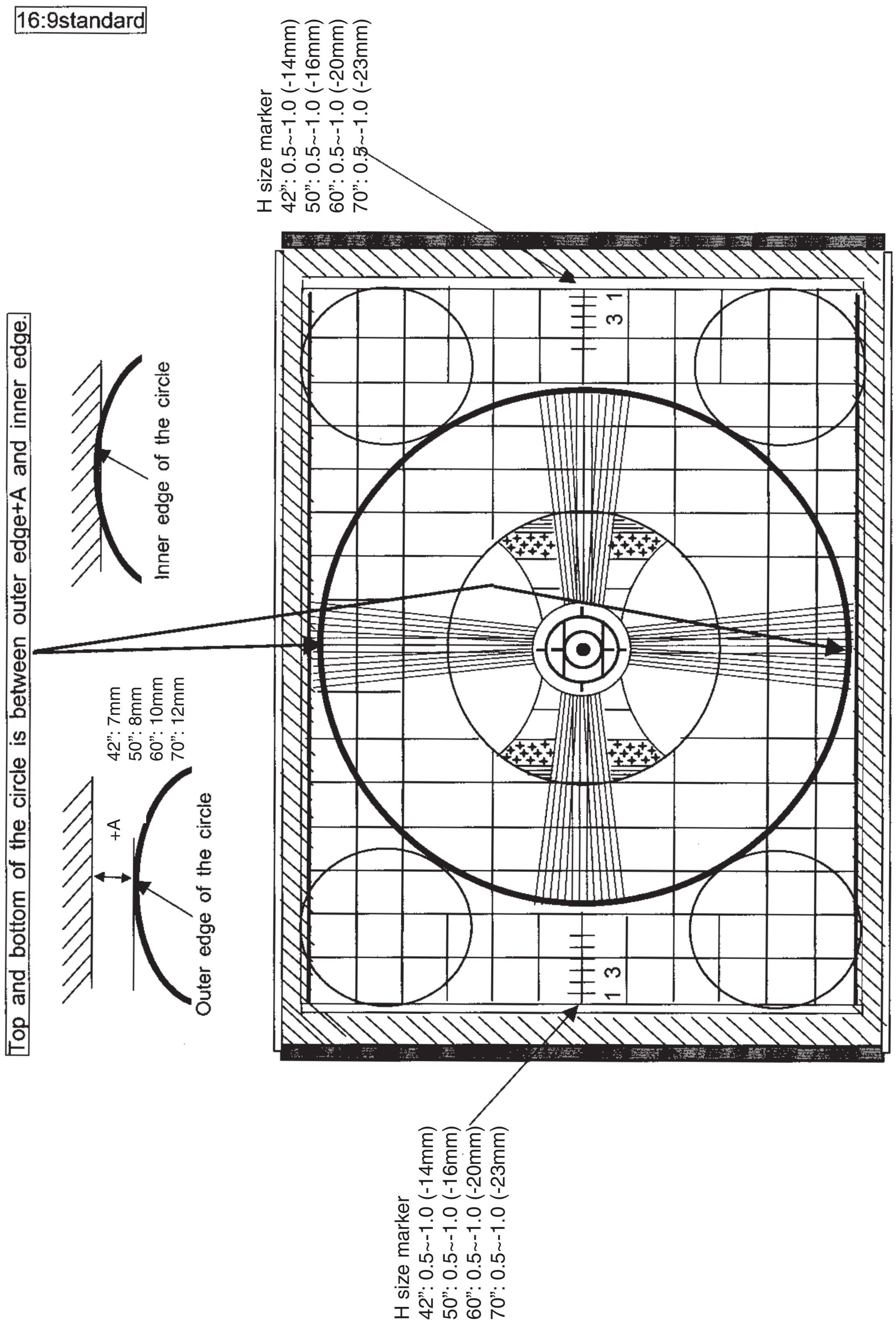
(4) Select 'H POSITION' by using the cursor stick (▲/▼ direction) on handset. Adjust the horizontal picture position where |G-H| <= 6mm by using the cursor stick (◀/▶direction).



BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

4.0 DISPLAY AREA SPECIFICATIONS


16:9standard
H size marker
42": 0.5~-1.0 (-14mm)
50": 0.5~-1.0 (-16mm)
60": 0.5~-1.0 (-20mm)
70": 0.5~-1.0 (-23mm)
Top and bottom of the circle is between outer edge+A and inner edge.
Inner edge of the circle
+A
42": 7mm
50": 8mm
60": 10mm
70": 12mm
Outer edge of the circle
3 1
1 3
H size marker
42": 0.5~-1.0 (-14mm)
50": 0.5~-1.0 (-16mm)
60": 0.5~-1.0 (-20mm)
70": 0.5~-1.0 (-23mm)

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

5.0 Amplitude Adjustment

5.1 RGB Amplitude Adjustment

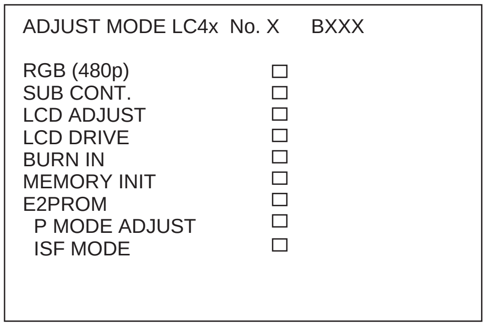
Preparation for adjustment

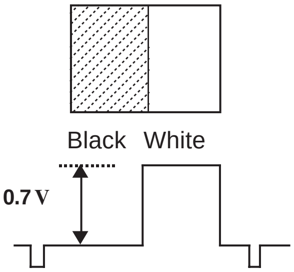
(1) Recall user menu and select 'Video' _ 'Picture Mode' _ 'Day' _ 'Reset'.
(2) Input 525p(480p) of RGB amplitude adj. signal into INPUT1 (Component) input.

Adjustment procedure

(1) Receive 525p(480p) signal (ASPECT 16:9 Standard).
(2) Select 'RGB (480P)' from Service Adj. Menu.
(3) Press and hold the "▶" cursor on the remote for 2 seconds or more to perform automatic adjustment.
(4) Wait until 'Auto Adjusting' OSD is disappeared.

Sample of 'ADJUST MODE' Menu


ADJUST MODE LC4x No. X BXXX
RGB (480p) ☐
SUB CONT. ☐
LCD ADJUST ☐
LCD DRIVE ☐
BURN IN ☐
MEMORY INIT ☐
E2PROM ☐
P MODE ADJUST ☐
ISF MODE ☐


Black
White
0.7 V

-Remarks
RGB amplitude adj. signal

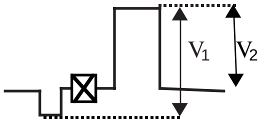
6.0 Sub-contrast adjustment

-Preparation
(1) Receive Sub-contrast adjustment signal.(Fig.1)

-Adjustment
(1) Select 'SUB CONTRAST' of Service Adj. Menu.
(2) Press "▶" for over 2 seconds to perform automatic adjustment. When it's completed, 'Auto Adjusting' on the screen will be disappeared.

Fig.1

Full White

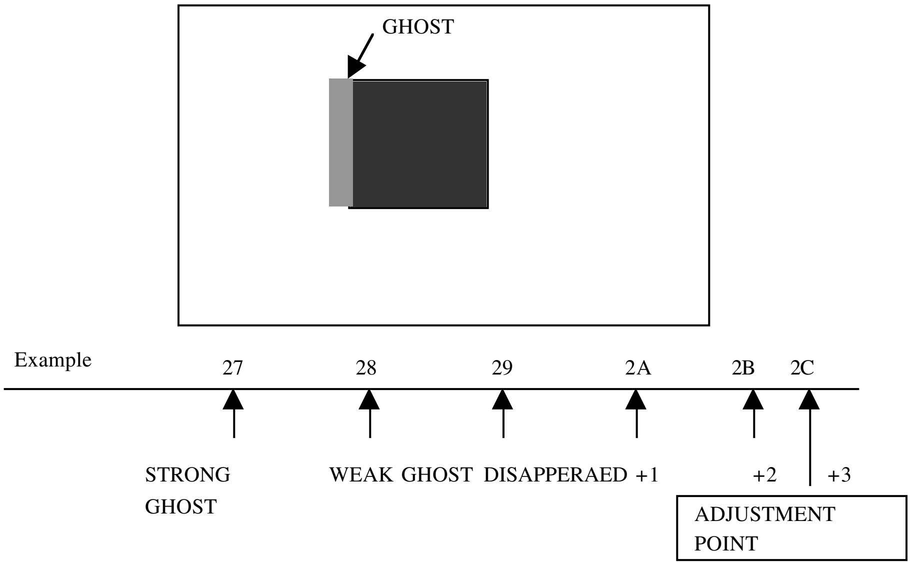


(RF Input)
V_1=1.0 Vp-p (when V_2=100IRE)

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

7.0 GHOST ADJUSTMENT

	ADJUST ITEMS	ADJ. PROCEDURE	
1	ADJ.SIGNAL	Internal signal from IC(Black window pattern with 50% raster signal)	
2	GHOST ADJUSTMENT	**SELECT: ADJUST MODE →LCD ADJUST →GHOST** First , reduce the “SHP” pressing left button ◀ of the remote until ghost appears at the left hand side of the window pattern. Next, increase the “SHP” pressing right button ▶ of handset until ghost disappears. Then, increase 3 steps.  GHOST Example 27 28 29 2A 2B 2C STRONG GHOST WEAK GHOST DISAPPERAED +1 +2 +3 ADJUSTMENT POINT Watch carefully on the screen.	
3	RED GHOST ADJUSTMENT	Check for no ghost on the window pattern. If there is, decrease the ghost by cursor left (◀) or corsor right (▶) of the remote control.	
4	GREEN GHOST ADJUSTMENT	Press “SELECT” key and adjust same procedure as RED GHOST.	
5	BLUE GHOST ADJUSTMENT	Press “SELECT” key and adjust same procedure as GREEN GHOST.	

8.0 V.COM (FLICKER) ADJUSTMENT

	ADJUSTMENT ITEMS	ADJUSTMENT PROCEDURE	
0	PREPARATION	This adjustment should be done after GHOST ADJUSTMENT.	
1	SIGNAL	Internal signal from IC (50% raster signal with one dot black lines)	
2	Red FLICKER ADJUSTMENT	**SELECT : ADJUST MODE →LCD ADJUST→V.COM with handset.** You should reduce the flicker by pressing left or right button of handset. The adjustment point is the weakest FLICKER position.	
3	GREEN FLICKER ADJUSTMENT	Press “SELECT” key, then the internal signal will be changed from red to green. Same procedure should be done for GREEN flicker adjustment.	
4	BLUE FLICKER ADJUSTMENT	Press “SELECT” key, then the internal signal will be changed from green to blue.Same procedure should be done for GREEN flicker adjustment.	

9.0 NRSH (VERTICAL LINE) ADJUSTMENT

	ADJUSTMENT ITMS	ADJUSTMENT PROCEDURE	
0	PREPARATION	Flicker adjustment should be finished.	
1	SIGNAL	Internal signal from IC(Grey scale)	
2	NRSH ADJUSTMENT	**SELECT :ADJUST MODE →LCD ADJUST →NRSH by using handset.** The screen is divided in 9 areas. Initially, the upper left area is selected. Check that no black or white vertical stripes are observed on the screen. If 12 dots interval stripes exist, select area by using the cursor stick on handset (▲/▼ direction) and adjust NRSH by using the stick (◄/►).	

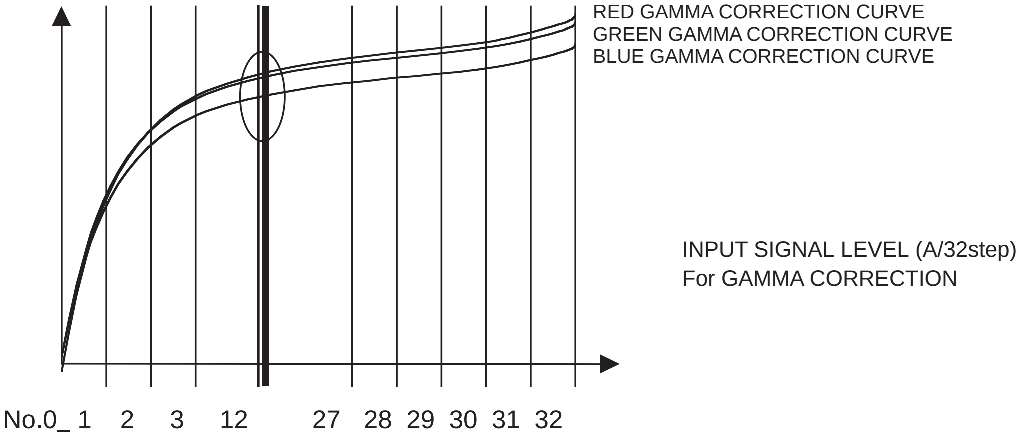
BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

10.0 GAMMA Correction (White Balance)

GAMMA data (white balance) should not be adjusted. This data are adjusted by the factory and MEMORY INITialize cannot erase these data. If and only if the customer request to change the GAMMA correction, follow the instruction below.
(1) Heat run for 10 minutes or more after power on.
(2) The white signal is generated from the internal IC.
(3) Change only the step that are requested to change.

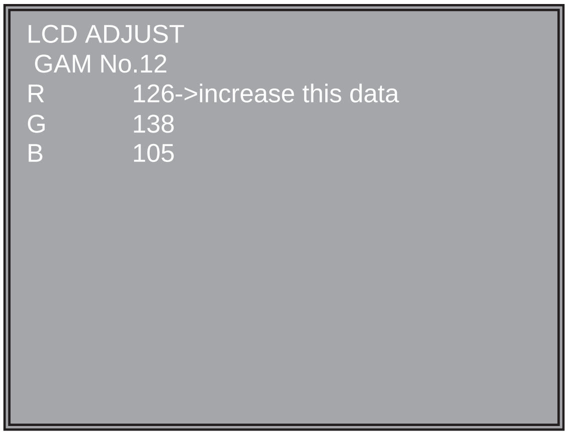
For customer request, it is possible to adjust RGB signal amplitude (means adjust the gamma correction curve) each signal level (No.1_No.32).
If customer require to change the white balance of LCD PTV, we should re-adjust gamma correction curve.



1. ADJUSTMENT PROCEDURE for SERVICE
Input signal level(luminance level) is divided into 32(No.0_No.32).

FOR EXAMPLE,
If customer require to change the white balance of 12th level of white to reddish, increase the red value and adjust the white balance of 12th signal level (see below).

I2C MENU (Adjustment)
LCDADJ>GAMMA>No.12



LCD ADJUST
GAM No.12
R 126->increase this data
G 138
B 105

Remark: The gamma data for higher intensity should always be bigger than that of lower intensity. If not, noise may appear on the screen.

example:

	GAM No11		GAM No12		GAM No13	
R	120	>	119	<	127	NG
R	120	<	128	>	127	NG
R	120	≤	125	≤	127	OK

GAM No12 Red Adjustable Range 120~127

STORE THE DATA TO TV SET
LCD ADJ>G/C WRITE_press for several second
After this procedure, this new data will be write back to E2PROM. It takes about 20 seconds (picture will be black out).

III. ASSEMBLED P.W.B. ADJUSTMENT

11.0 Color Uniformity (White Uniformity)

COLOR UNIFORMITY data should not be adjusted. This data are adjusted by the factory and MEMORY INITialize cannot erase these data. If and only if the customer request to change the color uniformity, follow the instruction below.

(1) Heat run for 10 minutes or more after power on.
The four white signals generated from the internal IC
(3) Change only the step that are requested to change.

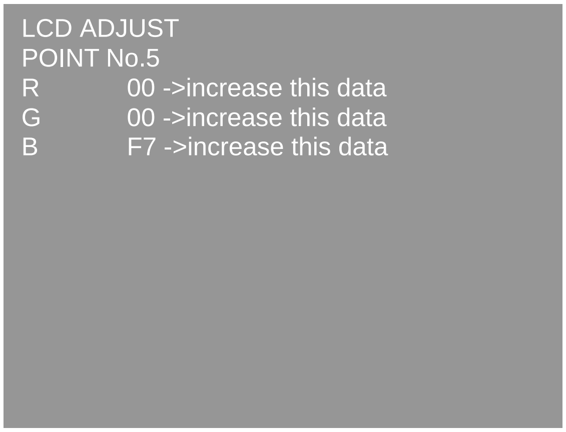
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

The screen is divided in 25 spaces. It can adjust for 4 different luminance levels. These data is linearly interpolated on screen.

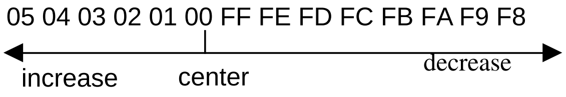
1. COLOR UNIFORMITY ADJUSTMENT PROCEDURE
Adjustable luminance level is divided in 4 (MIN (8%), MIDL (20%), MIDH (55%), and HMAX (82%)).

FOR EXAMPLE
If a customer complains about the color uniformity at position 5 on the screen (luminance level; MIDH), increase the BLUE (or GREEN or RED) value and adjust the color uniformity of position 5.

I2C MENU
LCDADJ>C.UNIF (MIDH)>POINT No.5



LCD ADJUST
POINT No.5
R 00 ->increase this data
G 00 ->increase this data
B F7 ->increase this data



STORE THE DATA TO TV SET
LCD ADJ>G/C WRITE - press for 2- 3 second
After this procedure, this new data will be written back to E2PROM. It takes about 20 seconds.

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

12.0 DOOR PROTECTION OPERATION CHECK

Adjustment procedure

(1) Remove Lamp cover and turn the set on.
(2) Check that the lamp dose not light, and “Lamp indicator" is flash red.
(3) Turn the set off and attach Lamp cover again

13.0 LAMP HOLDER PROTECTION OPERATION CHECK

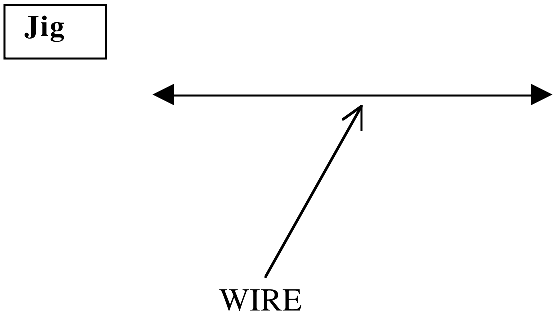
Adjustment procedure

(1)Remove Lamp holder and turn the set on.(attach Lamp cover)
(2)Check that the lamp dose not light, and “Lamp indicator" is flash red.
(3)Turn the set off and attach Lamp holder again

14.0 HIGH TEMPERATURE PROTECTION OPERATION CHECK

Adjustment procedure

(1)Remove EPF2 connector while the set is on.
(2)Check that the lamp is turned off and “Temp indicator" is flash red.
(3)Turn the set off and attach EPF2 again.
(4)Remove EPF3 connector while the set is on.
(5)Check that the lamp is turned off and “Temp indicator" is flash red.
(6)Turn the set off and attach EPF3 again.
(7) Turn the set on and connect Jig (Shown below) between temperature sensor terminals on optical engine.
(8)Check that the lamp is turned off and “Temp indicator" is flash red.
(9)Turn the set off and remove Jig.



NOTE: For safety, the jig may use jumper to jumper alligator test clips with minimum rating 300V/6A.

SPECIFICATION OF WHITE BALANCE.

HIGH: 14,700K+23MPCD (X=0.260±0.01, Y=0.280±0.01)
MEDIUM: 7500K+0MPCD (X=0.301±0.02, Y=0.311±0.02)
STANDARD: 6500K+0MPCD (X=0.313±0.02, Y=0.329±0.02)
Black/White: 5400K+0MPCD (X=0.334±0.02, Y=0.343±0.02)
at screen center

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

15.0 I²C Parameters

1st Page

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				LC47*	LC48*	UC49*	LC46*
FC4							
SUB BRIGHT	Sub Brightness		00~FF	80	«	«	«
White Balance Mode (Controlled by sub mi-com)							
R DRIVE(HIGH)	Red Drive Gain Adjustment	High	000~3FF	200*	«	«	«
RDRIVE(MED)	Data(M) » High + Medium - 7F	Medium		200*	«	«	«
RDRIVE(STD)	Data(S) = High + Standard - 7F	Standard		200*	«	«	«
R DRIVE (B/W)	Data (B) = High+ B/W -7F	Black/White		200*	«	«	«
G DRIVE(H)GH)	Green Drive Gain Adjustment	High	000-3FF	200*	«	«	«
G DRIVE(MED)	Data(M) = High + Medium - 7F	Medium		1C3*	«	«	«
G DRIVE(STD)	Data(S) = High + Standard - 7F	Standard		1B9*	«	«	«
G DRIVE (B/W)	Data (B)* High + B/W -7F	Black/White		1A8*	«	«	«
B DRIVE(HIGH)	Blue Drive Gain Adjustment	High	000-3FF	200*	«	«	«
B DRIVE(MED)	Data(M) = High + Medium - 7F	Medium		1A0*	«	«	«
B DRIVE{STD)	Data(S) = High + Standard - 7F	Standard		184*	«	«	«
B DRIVE {B/W)	Data (B) = High+ B/W -7F	Black/White		15D*	«	«	«
RCUTOFF(HIGH)	Red Cutoff Adjustment	High	000-3FF	000*	«	«	«
RCUTOFF(MED)	Data(M) = High + Medium - 400	Medium		000*	«	«	«
RCUTOFF(STD)	Data(S) « High + Standard - 400	Standard		000*	«	«	«
R CUTOFF (B/W)	Data(B) = High + B/W -400	Black/White		000*	«	«	«
G CUTOFF(HIGH)	Green Cutoff Adjustment	High	000~3FF	000*	«	«	«
G CUTOFF(MED)	Data(M) = High + Medium - 400	Medium		000*	«	«	«
G CUTOFF(STD)	Data(S) « High + Standard - 400	Standard		000*	«	«	«
G CUTOFF (B/W)	Data(B) = High + B/W -400	Black/White		000*	«	«	«
B CUTOFF(HIGH)	Blue Cutoff Adjustment	High	000~3FF	000*	«	«	«
B CUTOFF(MED)	Data(M) = High + Medium - 400	Medium		000*	«	«	«
B CUTOFF(STD)	Data(S) = High + Standard - 400	Standard		000*	«	«	«
B CUTOFF (B/W)	Data(B) = High + B/W -400	Black/White		000*	«	«	«
HPOSI	HP(E7070)		000~3FF	1A2*	«	«	«
VPOSI	VP(E7070)		00-1FF	00D*	«	«	«
Main mi-con							
FACTORY RESET			-	-	-	-	-

*.- Stored in EEPROM for sub mi-con

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

2nd Page (1/6)

Adjustment Mode OSD	Adjustment Item	Adjustment Range (HEX)	Initial Data(HEX)			
			LC47	LC48*	LC49*	LC46*
FC4						
RQB(480p)	FLA_ON	-	-	-	-	-
TA1270-Sub/FC4						
SUB-CNT	Sub Contrast Control	-	-	-	-	-
LCD ADJUST - ENBW (Controlled by sub mi-con)						
ENBW	W (E7070/COCh)	00-3F	0B*	«	«	«
LCD ADJUST - GHOST (Controlled by sub mi-corn)						
GHOST-R	GHOST R (E7070/C09H)	00-7F	0F*	«	«	«
GHOST-G	GHOST G (E7070/COAH)	00~7F	0F*	«	«	«
GHOST-B	GHOST B (E7070/COBH)	00-7F	0F*	«	«	«
LCD ADJUST - Vcon (Controlled by sub ml-con)						
VCOM-R	V-COM R (E6110-R/01h)	00-FF	8F*	«	«	«
VCOM-G	V-COM G (E6110-G/01h)	00-FF	8F*	«	«	«
VCOM-B	V-COMB-(E6110-BA)1h)-	00~FF	8F*	«	«	«
LCD ADJUST - NRSH (Controlled by sub mi-corn)						
NRSH-HR	NRSH HR (E7070 106h)	000-3FF	355*	«	«	«
NRSH-HG	NRSH HG (E7070 506h. 906h)	000-3FF	355*	«	«	«
LCD ADJUST - STRIPE (Controlled by sub ml-con)						
STR-RO	STRIPEO-R (E7070/C46H)	00-FF	06*	«	«	«
STR-R1	STRIPE1-R (E7070/C47h)	00-FF	03*	«	«	«
STR-R2	STRIPE2-R (E7070/C48h)	00-FF	FF	«	«	«
STR-R3	STRIPE3-R (E7070/C49H)	00-FF	FB*	«	«	«
STR-R4	STRIPE4-R (E7070/C4AH)	00-FF	F8*	«	«	«
STR-GO	STRIPEO-G (E7070/C4Bh)	00-FF	06*	«	«	«
STR-G1	STRIPE1-G (E7070/C4Ch)	00-FF	03*	«	«	«
STR-G2	STRIPE2-G (E7070/C4DH)	00-FF	FF	«	«	«
STR-G3	STRIPE3-G (E7070/C4Eh)	00-FF	FB*	«	«	«
STR-G4	STRIPE4-G (E7070/C4FH)	00-FF	F8*	«	«	«
STR-BO	STRJPEO-B (E7070/C50h)	00-FF	06*	«	«	«
STR-B1	STRIPE1-B (E7070/C51h)	00-FF	03*	«	«	«
STR-B2	STRIPE2-B (E7070/C52H)	00-FF	FF	«	«	«
STR-B3	STRIPE3-B (E7070/C53h)	00-FF	FB*	«	«	«
STR-B4	STRIPE4-B (E7070/C54H)	00-FF	F8*	«	«	«
LCD ADJUST - S.GHOST (Controlled by sub ml-con)						
S.G.-R	SUB GHOST-R (E7070/C58h)	00-7FF	000*	«	«	«
S.G.-G	SUB GHOST-G (E7070/C59h)	00-7FF	000*	«	«	«
S.G.-G	SUB GHOST-B (E7070/C5AH)	00-7FF	000*	«	«	«
LCD ADJUST - STREAK (Controlled by sub mi-con)						
R LEVEL	STREAK-LEVEL-R (E7070/C6DH)	000-7FF	000*	«	«	«
R SLOPE	STREAK-SLOPE-R (E7070/C67H)	000-3FF	3FD*	«	«	«
G LEVEL	STREAK-LEVEL-G (E7070/C70H)	000-7FF	000*	«	«	«
G SLOPE	STREAK-SLOPE-G (E7070/C68h)	000-3FF	3FD*	«	«	«
B LEVEL	STREAK-LEVEL-B (E7070/C73H)	000-7FF	000*	«	«	«
B SLOPE	STREAK-SLOPE-B (E707Q/C69h)	000-3FF	3FD*	«	«	«

S: Stored In EEPROM for sub mi-con

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (2/6)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	InitialData(HEX)			
			LC47*	LC48*	LC49*	LC46*
LCD ADJUST -GAMMA (Controlled by sub mi-con)						
GAM No	GAMMA INDEX No.	00-32	0 0	«	«	«
R	R-GAM (E7070/000h-100h}	000-3FF	X	«	«	«
G	G-GAM (E7070/400h~500h)	000-3FF	X	«	«	«
B	B-GAM (E7070/800h-900h)	000-3FF	X	«	«	«
LCD ADJUST - C.UNIF(MIN) (Controlled by sub mi-con)						
POINT No	C.UNIF No.	01-19	0 1	«	«	«
R	R-UNIF (E7070/FFCh)	00-FF	X	«	«	«
G	G-UNIF (E7070/FFDH)	00-FF	X	«	«	«
B	B-UNIF (E7070/FFEh)	00-FF	X	«	«	«
LCD ADJUST - C.UNIF(MIDL) (ControBed by sub mi-con)						
POINT No	C.UNIF No.	01-19	0 1	«	«	«
R	R-UNIF (E7070/FFCh)	00-FF	X	«	«	«
G	G-UNIF (E7070/FFDH)	00-FF	X	«	«	«
B	B-UNIF' (E7070/FFEh)	00-FF	X	«	«	«
LCD ADJUST - C.UNIF(MIDH) (Controlled by sub mi-con)						
POINT No	C.UNIF No.	01-19	0 1	«	«	«
R	R-UNIF (E7070/FFCH)	00-FF	X	«	«	«
G	G-UNIF (E7070/FFDh)	00-FF	X	«	«	«
B	B-UNIF (E7070/FFEH)	00-FF	X	«	«	«
LCD ADJUST - C.UNIF(MAX) (Controlled by sub mi-con)						
POINT No	C.UNIF No.	01-19	0 1	«	«	«
R	R-UNIF (E7070/FFCh)	00-FF	X	«	«	«
G	G-UNIF (E7070/FFDH)	00-FF	X	«	«	«
B	B-UNIF (E7070/FFB1)	00-FF	X	«	«	«
LCD ADJUST - G/C WRITE (Controlled by sub mi-con)						
G/C WRITE	Memory GAMMA and C.UNIF data in EEPROM	-	-	-	-	-

*: Stored In EEPROM for sub mi-com

III. ASSEMBLED P.W.B. ADJUSTMENT

2nd Page (3/6)

Adjustment Mode OSD	Adjustment Item	Adjustment Range (HEX)	Initial Data(HEX)			
			LC47*	LC48*	LC49*	LC46*
LCD DRIVE						
TEST PAT	(E7070 C23H C21H-C31H)	00-7F	0 0	«	«	«
VREF	VREF (E6110-B/OOh)	00-FF	FF*	«	«	«
SHPR	SHPR (E7070/C13WD11-07)	0-F	07*	«	«	«
SHPG	SHPG (E7070/C13WD07-04) -	0~F	07*	«	«	«
SHPB	SHPR (E7070/C13WD03-00)	0-F	07*	«	«	«
NRSH HR	NRSH HR (E7070/106h)	000-3FF	355*	«	«	«
NRSH LR	NRSH LR (E7070/107h)	000-3FF	00B*	«	«	«
NRSH HG	NRSH HG (E7070/506h)	000-3FF	355*	«	«	«
NRSH LG	NRSH LG (E7070/507h)	000-3FF	00B*	«	«	«
NRSH HB	NRSH HB (E7070/906h)	000-3FF	355*	«	«	«
NRSH LB	NRSH LB (E7070/907h)	000-3FF	00B*	«	«	«
BLOCK R	BLOCK GHOST-R (E7070/C5Bh)	000-7FF	000*	«	«	«
BLOCK G	BLOCK GHOST-G (E7070/C5Ch)	000-7FF	000*	«	«	«
BLOCK B	BLOCK GHOST-B (E7070/C5Dh)	000-7FF	000*	«	«	«
RE-GH-R	RMSHOST^ (E7070/C5Eh)	000-7FF	001*	«	«	«
RE-GH-G	Re-GHOST-R (E7070/C5Fh)	000-7FF	001*	«	«	«
RE-GH-B	Re-GHOST-R (E7070/C60h)	000-7FF	001*	«	«	«
GMS R	GAMS R (E7070/103h)	000-3FF	000*	«	«	«
GMSG	GAMS G (E7070/503h)	000-3FF	000*	«	«	«
GMSB	GAMS B (E7070/903h)	000-3FF	000*	«	«	«
NRSH LP	NRSH LP (E7070/C2Ah)	000-1FF	000*	«	«	«
NRSH LW	NRSH LW (E7070/C2Bhl	000-1FF	075*	«	«	«
NRGP	NRGP (E7070/C19h)	00-7F	057*	«	«	«
NRGW	NRGW (E7070/C1Ah)	00-FF	046*	«	«	«

*: Stored in EEPROM for sub ml-com

III. ASSEMBLED P.W.B. ADJUSTMENT

2nd Page (4/6)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
BURN IN							
BURN IN	Set to Burn in mode		-	-	-	-	-
MEMORY INIT							
MEMORY INIT			-	-	-	-	-
P MODE ADJ							
Contrast	Contrast Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day	00~60	60	<-	<-	<-
		Night	00-60	54	<-	<-	<-
Brightness	Brightness Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day	00~60	30	<-	<-	<-
		Night	00-60	30	<-	<-	<-
Color	Color Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day	00-60	30	<-	<-	<-
		Night	00-60	18	<-	<-	<-
Tint	Contrast Reset Step Adjustment 00 step ~ 60 step	Day	00-60	30	<-	<-	<-
		Night	00-60	30	<-	<-	<-
Sharpness	Tint Reset Step Adjustment 00 step-(0%)~ 60'step (100%)	Day	00-60	15	<-	<-	<-
		Night	00-60	9	<-	<-	<-
Color Temperature	Color Temperature Reset Adjustment High, Medium, Standard, Black/White	Day	High Medium Standard Black/White	High	<-	<-	<-
		Night	High Medium Standard Black/White	Standard	<-	<-	<-
Black Enhancement	Black Enhancement Reset Adjustment High, Middle. Low, Off	Day	High, Middle Low, Off	High	<-	<-	<-
		Night	High, Middle Low. Off	Off	<-	<-	<-
Noise Reduction	Noise Reduction Reset Adjustment High, Low, Off	Day	High, Low. Off	Low	<-	<-	<-
		Night	High. Low, Off	Low	<-	<-	<-
Contrast Mode	Edge Enhancement Reset Adjustment High, Middle, Low, Off	Day	Dynamic, Normal, Auto	Dynamic	<-	<-	<-
		Night	Dynamic, Normal, Auto	Normal	<-	<-	<-
Auto Movie Mode	Auto Movie Mode Reset Adjustment On.Off	Day	Off	Off	<-	<-	On.
		Night	On, Off	Off	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

2nd Page (5/6)

Adjustment ModeOSD	Adjustment Item		Adjustment Ranga(HEX)	Initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
ISF MODE: FC4							
RYCLPH	R-Y offset	High	00-FF	80	<-	<-	<-
RYCLPH	R-Y offset		00-FF	80	<-	<-	<-
RYCLPM	R-Y offset	Medium	00-FF	80	<-	<-	<-
BYCLPM	B-Y offset		00-FF	80	<-	<-	<-
RYCLPS	R-Y offset	Standard	00-FF	80	<-	<-	<-
BYCLPS	B-Y offset		00-FF	80	<-	<-	<-
RYCLPBW	R-Y offset	Black/White	00-FF	80	<-	<-	<-
BYCLPBW	B-Y offset		00-FF	80	<-	<-	<-
RGBOUT	RGB Output Mode Switch	ALL	00-03	0 0	<-	<-	<-
YGSET	Y Gain Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
RGSET	R Gain Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
MGSET	M Gata Rasat data (CM ON)	ALL	00-7F	3F	<-	<-	<-
BGSET	B Gain Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
CYGSET	CY Gain Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
GGSET	G Gain Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
YHSET	V Phasa Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
RHSET	R Phasa Racet data (CM ON)	ALL	00-7F	3F	<-	<-	<-
MHSET	M Phase Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
BHSET	B Phasa Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
CYHSET	CY Phasa Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
GHSET	G Phasa Reset data (CM ON)	ALL	00-7F	3F	<-	<-	<-
CNTCEN3	Contrast Center	ANT_Analog/NTSC/480i(HDMI 480i)	00-FF	89	<-	<-	<-
CNTCENK		YPBPR(480p/720p/1080i)HDMI(480p /720p/1080i)/ANT Digital	00-FF	89	<-	<-	<-
CNTCENC		SPLIT	00-FF	3C	<-	<-	<-
4X3CENU		4:3 Standard Offset	00-FF	BC	<-	<-	<-
BRTCEN3	Brightness Center	ANT_Analog/NTSC	00-FF	7F	<-	<-	<-
BRTCENG		480i	00-FF	7F	<-	<-	<-
BRTCENJ		480[V720p/1080i/Multi	00-FF	7F	<-	<-	<-
YPSHT3	Y Pedestal Level Shift	ANT Analog/NTSC	00-7F	0 0	<-	<-	<-
YPSHTG		480i	00-7F	0 0	<-	<-	<-
YPSHTJ		480p/720p/1080i/Multi	00-7F	0 0	<-	<-	<-
COLORS	Color	ANT_Analog/NTSC	00-7F	65	<-	<-	<-
COLORE		SDTV	00-7F	65	<-	<-	<-
COLORF		HDTV	00-7F	65	<-	<-	<-
TINTS	Tint	ANT_Analog/NTSC	00-FF	82	<-	<-	<-
TINTE		SDTV	00-FF	82	<-	<-	<-
TINTF		ANT Analog/NTSC	00-FF	82	<-	<-	<-
SHP1	Sharpness Control	ANT Analog	00-1F	19	<-	<-	<-
SHP1NR		ANT Analog NR	00-1F	0 8	<-	<-	<-
SHP2		NTSC	00-1F	19	<-	<-	<-
SHP2NR		NTSC NR	00-1 F	0 8	<-	<-	<-
SHP4		480i	00-1F	19	<-	<-	<-
SHP4NR		480i NR	00-1 F	8	<-	<-	<-
SHP5		480p	00-1F	19	<-	<-	<-
SHP6		720p	00-1F	19	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

Adjustment Mode OSD	Adjustment Item		Adjustment Range{HEX)	Initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
ISFMODE:FC4							
SHP7	Sharpness Control	ANT Digital/1080i	00-1F	19	<-	<-	<-
SHPTNR		ANT Digital/480p/720p/1080i NR	00-1F	0 8	<-	<-	<-
BSPH	BLACK STRETCH gain	High	00-3F	24	<-	<-	<-
BSPM		M le	00-3F	1F	<-	<-	<-
BSPL		Low	00-3F	1C	<-	<-	<-

3rd Page (1/9)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
AFC/CLOCK TEST			-	-	-	-	-
CCD/V CHIP							
H POSI	V Chip Adjust		00~OF	22	<-	<-	<-
V POSI			00-OF	1B	<-	<-	<-
CLK1			3B~4F	39	<-	<-	<-
SAMPLING			QO~FF	0 0	<-	<-	<-
POLLING			00-FF	OF	<-	<-	<-
START			00	0 2	<-	<-	<-
TIMEOUT			05-1E	0 5	<-	<-	<-
STATUS			01~07	0 2	<-	<-	<-
CLK POS	Adjust CCD Clock Position HDTV only		00~1F	OA	<-	<-	<-
VIDEO ID	VIDEO ID Detection 0: 4:3 signal, 1: 4:3 Letter box signal 2: 16:9 screen signal. FF: No VIDEO ID		00~02 , FF	X	<-	<-	<-
IR BLASTER							
WAIT	IR Blaster Adjustment		00-FF	0 6	<-	<-	<-
REPEAT	IR Blaster Adjustment		00-FF	0 0	<-	<-	<-
DIGITAL MODULE							
DIGITAL MODULE	Enter DM adjust menu		-	-	-	-	-
UPD64084 (B8H)/(B9H)							
NOISE (Read Mode)	Noise Level Detection 00: Noise Small ~ FF: Noise Large		00~FF	X	<-	<-	<-
VID-ID (Read Mode)	Video ID Detection 0: 4:3 signal, 1: 16:9 signal, 2: 4:3 letter box		00~03	X	<-	<-	<-
DYGA	Y Motion Detection Gain 0: Gain 0-F: Gain MAX		00~OF	0 9	<-	<-	<-
DCGA	Chroma Motion Detection Gain 0: Gain 0~F: Gain MAX		00-OF	0 6	<-	<-	<-
VAPGA	Vertical Aperture Control Gain 0: Correction OFF - 7: Correction MAX (xO.875)		00~07	0 5	<-	<-	<-
VAPIN	Vertical Aperture Control Invert 0: Correction OFF - 1F: Correction MAX (xO.875)		00-1F	0 8	<-	<-	<-
YPFG	Y Peaking Filter Gain Control		00-OF	0 8	<-	<-	<-
YHC1	TV (NOISE REDUCTION : OFF/LOW)		00—03	0 0	<-	<-	<-
YHC1-NR	TV-NR (NOISE REDUCTION : HIGH)		00~03	0 2	<-	<-	<-
YHC2	TV (NOISE REDUCTION: OFF/LOW)		00-03	0 0	<-	<-	<-
YHC2-NR	TV-NR (NOISE REDUCTION : HIGH)		00	0 2	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (2/9)

Adjustment ModeOSD	Adjustment Item		Adjustment RangefHEX)	initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
TA1270-Main/Sub (24H/2CH)							
HLOCKM	H-LOCK (Read Mode)	Main	00-01	X	<-	<-	<-
HLOCKS		Sub	00-01	X	<-	<-	<-
CONT3M	Sub Contrast Control 00: -3dB~ 1F:+3dB	Main	00-1F	10	<-	<-	<-
CONT3S		Sub	00-1F	0F	<-	<-	<-
CLR3M	Color Control	Main	00-1F	0B	<-	<-	<-
CLR3S		Sub	00-1F	0B	<-	<-	<-
TINT3M	Tint Control	Main	00-7F	3F	<-	<-	<-
TINT3S		Sub	00— 7F	3F	<-	<-	<-
AN15865-Main/Sub (85H/8DH) Read Mode							
AFCM	Main AFC-LOCK 0: unlocked, 1: locked		00-01	X	<-	<-	<-
AFCS	Sub AFC-LOCK 0: unlocked, 1: locked		00-01	X	<-	<-	<-
SYSM	Main Out5 System Status 0:480i_60 1: 480p_60 , 2: 1080i 60, 3: 720p 60 4: 576i 50. 5: 576p 50. 6: 1080i 50. 7: 720p-50		00-07	X	<-	<-	<-
SYSS	Sub Out5 System Status 0:480i_60 1: 480p_60 , 2: 1080i 60, 3: 720p 60 4: 576i 50. 5: 576p 50. 6: 1080i 50. 7: 720p-51		00-07	X	<-	<-	<-
SYNCM	Main Sync Status D7: Sync status (0: Binary sync, 1: Tri-level sync) D6: MACRCVISION detection (fc normal. 1: macro vision) D5: Auto distinc. Result CVST det (0: SY. 1: CY)		00-07	X	<-	<-	<-
SYNCS	Sub Sync Status D4: Auto disfinc. Result Sync fix (0: continue, 1: fix) D3: Australia interface (0: expect. 1: Australia) D2: Australia format (0: normal. 1: letter) D1: Signal detect (0: No signal, 1: Signal input)		00-7F	X	<-	<-	<-
AN15865-Main (84H) Write Mode							
SYNCAFC	OUTS Sync AFC/independent Select 0: AFC, 1: Independent		00-01	0 0	<-	<-	<-
SYNCSEP	OUTS Sync Normal/Separate Select 0: Normal. 1: Separated		00-01	0 0	<-	<-	<-
OUT4LPF	OUT4 LPF ON/OFF 0: LPF OFF. 1: LPF ON		00-01	0 0	<-	<-	<-
TA1370 (D8H) Write Mode							
SEPLVL4	Separation Level 0h: 10 IRE. 1h: 15 IRE. 2h 20 IRE. 130h: 25 IRE	Main 480p	00-03	0 1	<-	<-	<-
SEPLVL5		Main 720p	00-03	0 0	<-	<-	<-
SEPLVL6		Main 1080i	00-03	0 0	<-	<-	<-
HDPHS4	HD Phase Control 00h: -6%. 20h: 0%. 3Fh: +5%	Main 480p	00-3F	24	<-	<-	<-
HDPHS5		Main 720p	00-3F	27	<-	<-	<-
HDPHS6		Main 1080i	00-3F	24	<-	<-	<-
NJW1160 (82H)							
BBE-LO1	BBE Low Frequency Effect Level1 OdB~15dB		00-OF	0 5	<-	<-	<-
BBE-LO2	BBE 'Low Frequency Effect Level2 OdB~15dB		00-OF	0 9	<-	<-	<-
BBE-HI1	BBE High Frequency Effect Level1 OdB~15dB		00-OF	0 3	<-	<-	<-
BBE-HI2	BBE High Frequency Effect Level2 OdB~15dB		00-OF	0 5	<-	<-	<-
AGC	AGC Level Setting 150m/300m/400m/540mVrms		00~03	0 1	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

Adjustment Mode OSD	Adjustment item	Adjustment Range(HEX)	Initial Data(HEX)			
			LC47*	LC48*	LC49*	LC46*
HDML 1 (60H READ Mode						
SYNC1	(VSYNC/Clock detect/Sync detect 1	00-07	X	<-	<-	<-
HDMM (68H) READ Mode						
NHRDL1	N hardware value 1 Low 7 bit	00-FF	X	<-	<-	<-
NHRDM1	N hardware value 1 Mid 7 bit	00-FF	X	<-	<-	<-
NHRDH1	N hardware value 1 High 7 bit	00- FF	X	<-	<-	<-
CHRDL1	CIS hardware value 1 Low 7 bit	00~FF	X	<-	<-	<-
CHRDM1	CIS hardware value 1 Mid 7 bit	00- FF	X	<-	<-	<-
CHRDH1	CIS hardware value 1 High 4 bit	00~FF	X	<-	<-	<-
ACR1	ACR PLL hardware value 1	00~FF	X	<-	<-	<-
ACRS1	ACR PLL hardware value 1	00-3F	X	<-	<-	<-
SFREQ1	Extracted Sampling Frequency 1 channel status bits 24-27(same value at 0x30)	00-OF	X	<-	<-	<-
CLKFRQ1	Clock Accuracy/Sampling Frequency 1	00~FF	X	<-	<-	<-
ALNG1	Audio length/Audio length max- 1	00-FF	X	<-	<-	<-
MT/MD1	AV mute/HDMI mode 1	00-FF	X	<-	<-	<-
ATYP1	AVI Info frame type code 1	00~FF	X	<-	<-	<-
AVER1	AVI info frame version code 1	00-FF	X	<-	<-	<-
VINFO11	AVI info frame data 1	00-FF	X	<-	<-	<-
VINF021		00-FF	X	<-	<-	<-
VINF031		00- FF	X	<-	<-	<-
VINFO41		00-FF	X	<-	<-	<-
VINFO51		00-FF	X	<-	<-	<-
ATYP1	AUDIO Info Frame Type Code 1	00-FF	X	<-	<-	<-
AVER1	AUDIO Info Frame Version Code 1	00-FF	X	<-	<-	<-
A1NFO11	AUDIO Info Frame Data Bytes 1	00-FF	X	<-	<-	<-
AINFO21		00-FF	X	<-	<-	<-
A1NF031		00-FF	X	<-	<-	<-
AINFO41		00-FF	X	<-	<-	<-
A1NF051		00- FF	X	<-	<-	<-
HDMI_2 (60H) READ Mode						
SYNC2	VSYNC/Clock detect/Sync detect 2	00- FF	X	<-	<-	<-
HDMJ_2 (68H) READ Mode						
NHRDL2	N hardware value 2 Low 7 bit	00-FF	X	<-	<-	<-
NHRDM2	N hardware value 2 Mid 7 bit	00-FF	X	<-	<-	<-
NHRDH2	N hardware value 2 High 4 bit	00-FF	X	<-	<-	<-
CHRDL2	CTS hardware varue 2 Low 7 bit	00 -FF	X	<-	<-	<-
CHRDM2	CTS hardware value 2 Mid 7 bit	00- FF	X	<-	<-	<-
CHRDH2	CTS hardware value 2 High 4 bit	00-FF	X	<-	<-	<-
ACR2	ACR PLL hardware value 2	00 -FF	X	<-	<-	<-
ACRS2	ACR PLL hardware value 2	00-3F	X	<-	<-	<-
SFREQ2	Extracted Sampling Frequency 2 channel status bits 24-27(same value at 0x30)	00 -OF	X	<-	<-	<-
CLKFRQ2	Clock Accuracy/Sampling Frequency 2	00-FF	X	<-	<-	<-
ALNG2	Audio length/Audio length max 2	00-FF	X	<-	<-	<-
MT/MD2	AV mute/HDMI mode 2	00-FF	X	<-	<-	<-
VTYP2	AVI info frame type code 2	00 -FF	X	<-	<-	<-
VVER2	AVI info frame version code 2	00-FF	X	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (4/9)

Adjustment Mode OSD	Adjustment Item	Adjustment Ranga(HEX)	Initial Data(HEX)			
			LC47*	LC48*	LC49*	LC46*
HDM1 2(68H) READ Mode						
VINF012	AVI info frame data 2	00-FF	X	<-	<-	<-
VINF022		00-FF	X	<-	<-	<-
V1NF032		00-FF	X	<-	<-	<-
VINF042		00-FF	X	<-	<-	<-
VINF052		00-FF	X	<-	<-	<-
ATYP2	AUDIO Info Frame Type Code 2	00-FF	X	<-	<-	<-
AVER2	AUDIO info Frame Version Code 2	00-FF	X	<-	<-	<-
AINF012	AUDIO info Frame Data Bytes 2	00-FF	X	<-	<-	<-
A1NF022		00-FF	X	<-	<-	<-
AINF032		00-FF	X	<-	<-	<-
AINF042		00-FF	X	<-	<-	<-
AINF052		00-FF	X	<-	<-	<-
HDML1/2 (60H) WRITE Mode						
BPMA	Back. Porch. Mode,- Field2-VCO- Range Setect 00 = low range setting (default) 01 = mld-low range setting 10 = mid-high range setting 11 = high range setting	00-01	0 1	<-	<-	<-
VCORA	VCO range select (chip initialization} Charge Pump Current Select, when PLL CGC{1]=0. 000 = 50ua 001 = 100ua (default) 010 = 150ua 011 = 250ua 100 = 350ua 101 = 500ua 110 = 750ua	00-03	0 0	<-	<-	<-
CRNTA	change pump current select	00-07	0 0	<-	<-	<-
HDMI 1/2 (68H) WRITE Mode						
TESTA	Matching Test to allow increment of stability counter. 1=Previous and most recent counts must match exactly. 0=Match determined by WINDIV value.	00-01	0 1	<-	<-	<-
PRMB	preamble criteria	00- 1F	0 6	<-	<-	<-
HDCP	HDCP enable criteria	00-1F	0C	<-	<-	<-
DUMMY	Don't care		*	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (5/9)

Adjustment MocteOSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)			
					LC47*	LC48*	LC49*	LC46*
FC-4 Write Mode								
VPOSIT	Vertical position	ANT Analog/NTSC/480i/480p		00-7F	3F	<-	<-	<-
VPOS16		720p		00-7F	3F	<-	<-	<-
VPOSI7		AW Digital/1080i		00-7F	3F	<-	<-	<-
MHPH3	Main Horizontal Position offset	ANT_Analog/NTSC		00-FF	6A	<-	<-	<-
MHPH4		480i		00-FF	5C	<-	<-	<-
MHPH5		480p		00-FF	7F	<-	<-	<-
MHPH6		720p		00-FF	7F	<-	<-	<-
MHPH7		ANT Digital/1080i		00-FF	7F	<-	<-	<-
MHPHR		VGA HDMI		00-FF	7F	<-	<-	<-
MHPHU6		720p HDMI		00~FF	5A	<-	<-	<-
MHPHU7		1080i HDMI		00-FF	53	<-	<-	<-
SHPH3	Sub Horizontal position offset	ANT Analog/NTSC		00-FF	7F	<-	<-	<-
SHPH4		480i		00-FF	72	<-	<-	<-
SHPR5		480p		00-FF	72	<-	<-	<-
SHPH6		720p		00-FF	75	<-	<-	<-
SHPH7		ANT Digital/1080i		00-FF	74	<-	<-	<-
SHPHR		VGA HDMI		00- FF	7F	<-	<-	<-
SHPHU6		720p_HDMI		00-FF	7F	<-	<-	<-
SHPHU7		1080i HDMI		00-FF	7F	<-	<-	<-
DYGAMDD	00: Gamma OFF 01: Normal Gamma 02: Linear Gamma 03: Dynamic Gamma	Contrast Mode: Dynamic	Day	00-03	0 3	<-	<-	<-
DYGAMDN			Night	00-03	0 2	<-	<-	<-
DYGAMND		Contrast Mode: Normal	Day	00-03	0 2	<-	<-	<-
DYGAMNN			Night	00-03	0 2	<-	<-	<-
DYGAMAD		Contrast Mode: Auto	Day	00-03	0 2	<-	<-	<-
DYGAMAN			Night	00-03	0 2	<-	<-	<-
AUTCON	Auto Contrast ON/OFF	Contrast Mode: Dynamic		00-01	0 0	<-	<-	<-
BLKLV3	Blanking Level	ANT Analog/NTSC/480i (HDMI 480i)		00-FF	7F	<-	<-	<-
BLKLK		YPBPR(480p/720p/1080i)/HDMI(480p/720p/1080i)/ANT Digital		00-FF	7F	<-	<-	<-
RGBAMP3	RGB Amp	ANT Analog/NTSC		00-FF	7F	<-	<-	<-
HHPFG	Horizontal filter on/off	ANT Analog/NTSC/480i		00-01	0 0	<-	<-	<-
HHPFJ		ANT Digital/480p/720p/1080i		00-01	0 0	<-	<-	<-
YHAED1	H Enhance	Day	ANT_Analog	00-03	0 1	<-	<-	<-
YHAEDM			NTSC/480i	00-03	0 1	<-	<-	<-
YHAEDJ			ANT Digital/480p/720p/1080i	00-03	0 1	<-	<-	<-
YHAEN1		Night	ANT_Analog	00-03	0 0	<-	<-	<-
YHAENM			NTSC/480i	00-03	0 0	<-	<-	<-
YHAENJ			ANT Digital/480p/720p/1080i	00-03	0 0	<-	<-	<-
YVAED1	V Enhance	Day	ANT Analog	00-03	0 2	<-	<-	<-
YVAEDM			NTSC/480i	00-03	0 2	<-	<-	<-
YVAEDJ			ANT Digital/480p/720/1080i	00-03	0 1	<-	<-	<-
WAEN1		Night	ANT Analog	00-03	0 0	<-	<-	<-
WAENM			NTSC/480i	00-03	0 0	<-	<-	<-
YVAENJ			ANT Digital/480p/720p/1080i	00-03	0 0	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (6/9)

Adjustment Mode OSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)			
					LC47*	LC48*	LC49*	LC46*
HEACOR1	Horizontal Enhance Coring		ANT_Analog	00-0F	0 1	<-	<-	<-
HEACORD			NTSC/480i	00-0F	0 1	<-	<-	<-
HEACOR5			480p	00~0F	0 1	<-	<-	<-
HEACORB			ANT Digital/720p/1080i	00-0F	0 1	<-	<-	<-
VEACOR1	Vertical Enhance Coring		ANT Analog	00-0F	0 1	<-	<-	<-
VEACORD			NTSC/480i	00-0F	0 1	<-	<-	<-
VEACOR5			480p	00-0F	0 1	<-	<-	<-
VEACORB			ANT Digital/720p/1080i	00-0F	0 1	<-	<-	<-
VDSB1	Y Vertical DSB Gain		ANT_Analog	00-03	0 0	<-	<-	<-
VDSB1NR			ANT Analog NR	00-03	0 0	<-	<-	<-
VDSB2			NTSC	00-03	0 0	<-	<-	<-
VDSB2NR			NTSC NR	00-03	0 0	<-	<-	<-
VDSB4			480i	00-03	0 0	<-	<-	<-
VDSB4NR			480i NR	00-03	0 0	<-	<-	<-
VDSB5			480p	00-03	0 0	<-	<-	<-
VDSBJ			ANT_Digital/720p/1080i	00-03	0 0	<-	<-	<-
VDSBTNR			ANT_Digital/480p/720p/1080i NR	00-03	0 0	<-	<-	<-
VDSBCT	Y Vertical DSB Coring		ANT_Analog/NTSC/480i/480p	00-07	0 7	<-	<-	<-
VDSBCB			ANT_Digital/720p/1080i	00-07	0 7	<-	<-	<-
VE3D	V Enhance Gain	Day	ANT Analog/NTSC	00-0F	0 6	<-	<-	<-
VE3NRD			ANT Analog/NTSC NR	00-0F	0 6	<-	<-	<-
VE4D			480i	00-0F	0 6	<-	<-	<-
VE4NRD			480i NR	00-0F	0 6	<-	<-	<-
VE5D			480p	00-0F	0 8	<-	<-	<-
VEBD			ANT Digital/720p/1080i	00-0F	0 8	<-	<-	<-
VETNRD			ANT Digit3V480p/720p/1080i NR	00-0F	0 8	<-	<-	<-
VEN		Night	ALL	00-0F	0 8	<-	<-	<-
VENRN			ALL NR	00-0F	0 8	<-	<-	<-
VNLPT	Y Vertical Nonlinear Peaking		ANT_Analog/NTSC/480i/480p	00-3F	0 0	<-	<-	<-
VNLPB			ANT_Digital/720p/1080i	00- 3F	0 0	<-	<-	<-
VECPQT	Y Vertical Enhance Clip Off		ANT_Analog/NTSC/480i/480p	00-01	0 0	<-	<-	<-
VECPOB			ANT Digjtal/720p/1080i	00-01	0 0	<-	<-	<-
VECLPTD	Y Vertical Enhance Clip Offset	Day	ANT_Analog/NTSC/480i/480p	00-0F	0F	<-	<-	<-
VECLPBD			ANT Digital/720p/1080i	00-0F	0 5	<-	<-	<-
VECLPTN		Night	ANT Analog/NTSC/480i/480p	00-0F	0 0	<-	<-	<-
VECtPBN			ANT_Digital/720p/1080i	00-0F	0 0	<-	<-	<-
HDSB1	Y Horizontal DSB Gain		ANT Analog	00-03	0 1	<-	<-	<-
HOSB1NR			ANT Analog NR	00-03	0 1	<-	<-	<-
HDSB2			NTSC	00-03	0 1	<-	<-	<-
HDSB2NR			NTSC NR	00-03	0 1	<-	<-	<-
HDSB4			480i	00-03	0 1	<-	<-	<-
HDSB4NR			480i NR	00-03	0 1	<-	<-	<-
HDSB5			480p	00-03	0 1	<-	<-	<-
HDSBJ			ANT Digital/720p/1080i	00-03 -	0 2	<-	<-	<-
HDSBTNR			ANT Digital/480p/720p/1080i NR	00-03	0 2	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (7/9)

Adjustment ModeOSD	Adjustment Item			Adjustment Range{HEX}	initial Data(HEX)			
					LC47*	LC48*	LC49*	LC46*
HDSBC3	Y Horizontal DSB Coring		ANT Analog/NTSC	00-03	0 3	<-	<-	<-
HDSBCA			480i/480p	00-03	0 3	<-	<-	<-
HDSBCB			ANT Digital/720p/1080i	00-03	0 3	<-	<-	<-
HE1	H Enhance Gain		ANT Analog	00-0F	0B	<-	<-	<-
HE1NR			ANT Analog NR	00-0F	0B	<-	<-	<-
HE2			NTSC	00-0F	0B	<-	<-	<-
HE2NR			NTSC NR	00-0F	0B	<-	<-	<-
HE4			480i	00-0F	0A	<-	<-	<-
HE4NR			4801 NR	00-0F	0A	<-	<-	<-
HE5			480p	00-0F	0A	<-	<-	<-
HEB			ANT Digital/720p/1080i	00-0F	0A	<-	<-	<-
HETNR			ANT Digital/480p/720p/1080i_NR	00-0F	0A	<-	<-	<-
HNLPT	Y Horizontal Nonlinear Peaking		ANT_Analog/NTSC/480i/480p	00-3F	0 0	<-	<-	<-
HNLPB			ANT_Digital/720p/1080i	00-3F	0 0	<-	<-	<-
HECPOT	Y Horizontal Enhance Clip Off		ANT Analog/NTSC/480i/480p	00-01	0 0	<-	<-	<-
HECPOB			ANT_Digital/720p/1080i	00-01	0 0	<-	<-	<-
HECLPO1	Y Horizontal clip offset level		ANT Analog	00-0F	0 7	<-	<-	<-
HECLPO2			NTSC	00-0F	0 7	<-	<-	<-
HECLPOA			480i/480p	00-0F	0 7	<-	<-	<-
HECLPOB			ANT Digital/720p/1080i	00-0F	0F	<-	<-	<-
CHPFT	Y Horizontal HPF Peak Frequency Switch		ANT_Analog/NTSC/480i/480p	00-03	0 2	<-	<-	<-
CHPFB			ANT_Digital/720p/1080i	00-03	0 2	<-	<-	<-
CVHEG1	Color Vertical Horizontal Enhance Gain		ANT Analog	00-1F	10	<-	<-	<-
CVHEG2			NTSC	00- 1F	10	<-	<-	<-
CVHEG4			480i	00- 1F	10	<-	<-	<-
CVHEG5			480p	00-1F	10	<-	<-	<-
CVHEGB			ANT Digitat/720p/1080i	00- 1F	0D	<-	<-	<-
CVHEG1			ANT Analog	00-1F	10	<-	<-	<-
CVET	Color Vertical Enhance Gain		ANT_Anatog/NTSC/480i/480p	00-0F	0F	<-	<-	<-
CVEB			ANT Digital/720p/1080i	00-0F	0 9	<-	<-	<-
CHET	Color Horizontal Enhance Gain		ANT_Analog/NTSC/480i/480p	00-0F	0F	<-	<-	<-
CHEB			ANT Digital/720p/1080i	00-0F	0 9	<-	<-	<-
MYNRG1	Main Y Ndse Reduction Input Level (NR: Low/High)	Normal	ANT_Analog	00-07	0 4	<-	<-	<-
MYNRG2			NTSC	00-07	0 4	<-	<-	<-
MYNRGA			480i/480p	00-07	0 4	<-	<-	<-
MYNRGB			ANT_Digital/720p/1 080i	00-07	0 4	<-	<-	<-
MYNRG8G		2 Pix SPLIT	Main=720p/1080i, Sub=720p/l080i	00-07	0 1	<-	<-	<-
MYNRG8J			Main=720p/1080i, Sub=720p/1080i	00-07	0 4	<-	<-	<-
MYNRGWG		4 Pix POP /STROBE	Main=NTSC. Sub=NTSC/720p/1080i	00-07	0 1	<-	<-	<-
MYNRGWJ			Main=720p/1080i, Sub=720p/l080i/NTSC	00-07	0 4	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (8/9)

Adjustment Mods OSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)			
					LC47*	LC48*	LC49*	LC46*
MCNRG1	Main Color Noise Reduction Input Level (NR: Low/High)	Normal	ANT Analog	00-07	0 4	<-	<-	<-
MCNRG2			NTSC	00	0 4	<-	<-	-07
MCNRGA			480i/480p	00-07	0 4	<-	<-	<-
MCNRGB			ANT Digital/720p/1080i	00-07	0 4	<-	<-	<-
MCNRG8G		2 Pix:SPLIT	Main=720p/1080i. Sub=720p/1080i	00-07	0 4	<-	<-	<-
MCNRG8J			Main=720p/1080i. Sub=720p/1080i	00-07	0 4	<-	<-	<-
MCNRGWG		4 Pix POP /STROBE	Main=NTSC, Sub=NTSC/720p/1080i	00-07	0 4	<-	<-	<-
MCNRGWJ			Main=720p/1080i, Sub=720p/1080i/NTSC	00-07	0 4	<-	<-	<-
SYNRG8	Sub YNR Input LEVEL	2 Pix SPLIT	ALL	00-07	0 4	<-	<-	<-
SYNRGXG		4/1 2 Pix POP/STROBE/SURF	Main=NTSC, Sub=NTSC/720p/1080i	00-07	0 1	<-	<-	<-
SYNRGXJ			Main=720p/1080i. Sub=720p/1080i/NTSC	00-07	0 4	<-	<-	<-
SCNRG8	Sub CNR Input LEVEL	2 Pix. SPLIT	ALL	00-07	0 3	<-	<-	<-
SCNRGXG		4/12 Pix POP/STROBE/SURF	Main=NTSC. Sub=NTSC/720p/1080i	00-07	0 3	<-	<-	<-
SCNRGXJ			Main=720p/1080i. Sub=720p/1080i/NTSC	00-07	0 3	<-	<-	<-
CCORG	C Coring Amplitude		ANT Analog/NTSC/480i	00-07	0 1	<-	<-	<-
CCORJ			ANT_Digital/480p/720p/1080i	00-07	0 1	<-	<-	<-
YCOR1	Y Coring Amplitude		ANT_Analog	00-07	0 3	<-	<-	<-
YCOR1NR			ANT Analog NR	00-07	0 7	<-	<-	<-
YCOR2			NTSC	00	0 4	<-	<-	-07
YCOR2NR			NTSC NR	00-07	0 7	<-	<-	<-
YCOR4			480i	00-07	0 4	<-	<-	<-
YCOR4NR			480i NR	00-07	0 7	<-	<-	<-
YCOR5			480p	00-07	0 4	<-	<-	<-
YCORB			ANT Digital/720p/1080i	00-07	0 3	<-	<-	<-
YCORJNR			ANT Digital/480p/720p/1080i NR	00-07	0 7	<-	<-	<-
MSYNRP1	Main/Sub YNR Redudng Level		ANT Analog	00-07	0 0	<-	<-	<-
MSYP1NR			ANT Analog NR	00-07	0 1	<-	<-	<-
MSYNRP2			NTSC	00	0 0	<-	<-	-07
MSYNRP4			480i	00-07	0 0	<-	<-	<-
MSYNRP5			480p	00-07	0 0	<-	<-	<-
MSYNRPF			ANT_Digital/720p/1080i	00-07	0 0	<-	<-	<-
MSCNRP1	Main/Sub CNR Reducing Level		ANT Analog	00-07	0 0	<-	<-	<-
MSCP1NR			ANT Analog NR	00-07	0 2	<-	<-	<-
MSCNRP2			NTSC	00	0 2	<-	<-	-07
MSCNRP4			480i	00-07	0 2	<-	<-	<-
MSCNRP5			480p	00-07	0 2	<-	<-	<-
MSCNRPF			ANT Digital/720p/1080i	00-07	0 0	<-	<-	<-
YHHPFG	Y Horizontal HPF Peak Frequency Switch		ANT Analog/NTSC/Multi	00-03	0 2	<-	<-	<-
YHHPF4			480i	00-03	0 2	<-	<-	<-
YHHPF5			480p	00-03	0 2	<-	<-	<-
YHHPFB			ANT Digital/720p/1080i	00-03	0 1	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

3rd Page (9/9)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)			
				LC47*	LC48*	LC49*	LC46*
PDPM			00-03	0 0	<-	<-	<-
PDPMM			00-03	0 0	<-	<-	<-
FRMTOP	Frame Top Position		00-0F	0 0	<-	<-	<-
FLAON			-	0 0	<-	<-	<-
R-C.O-H	R Gamma Offset	High	00-3F	1F	<-	<-	<-
R-C.O-M		Medium	00-3F	1F	<-	<-	<-
R-C.O-S		Standard	00- 3F	1F	<-	<-	<-
R-C.O-B		Black/White	00-3F	1F	<-	<-	<-
G-C.O-H	G Gamma Offset	High	00-3F	1F	<-	<-	<-
G-C.O-M		Medium	00-3F	1F	<-	<-	<-
G-C.O-S		Standard	00-3F	1F	<-	<-	<-
G-C.O-B		Black/White	00-3F	1F	<-	<-	<-
B-C.O-H	B Gamma Offset	High	00-3F	1F	<-	<-	<-
B-C.O-M		Medium	00-3F	1F	<-	<-	<-
B-C.O-S		Standard	00-3F	1F	<-	<-	<-
B-C.O-B		Black/White	00-3F	1F	<-	<-	<-
S.CSTEP			00-FE	0 6	<-	<-	<-
S.C-UP			00-FE	E6	<-	<-	<-
S.CLOW			00-FE	E0	<-	<-	<-
ROFF-H	Red (CD) Offset	High	00-3C	1E	<-	<-	<-
ROFF-M		Medium	00-3C	1D	<-	<-	<-
ROFF-S		Standard	00-3C	1D	<-	<-	<-
ROFF-B		Black/White	00-3C	1D	<-	<-	<-
GOFF-H	Green (CD) Offset	High	D0-3C	1E	<-	<-	<-
GOFF-M		Medium	00-3C	1E	<-	<-	<-
GOFF-S		Standard	00-3C	1E	<-	<-	<-
GOFF-B		Black/White	00-3C	1E	<-	<-	<-
FC4.ORG	Enter DM adjust menu		00-01	0 0	<-	<-	<-
FC-4 Read Mode							
TVCINE	TV/Cinema Signal Detection 0: TV, 1: Cinema		00-01	X	<-	<-	<-
MAXLVL1	Main maximum signal level		00-FF	X	<-	<-	<-
MAXLVL2	Sub maximum signal level		00-FF	X	<-	<-	<-

III. ASSEMBLED P.W.B. ADJUSTMENT

FC Unit Parameter List

No.	EEP	LABEL	Adjustment Item	Mode	Range		initial	
0	000H	FLAMINTV	Auto Signal Level Adjustment Minimum Value	TV	0-255	0-FFH	8	8H
1	001H	FLAMAXTV	Auto Signal Level Adjustment Maximum Value	TV	0-255	0-FFH		
2	002H	ASBY	Y Brightness Auto Adjustment Value	TV	0~127	0-7FH	64	40H
3	003H	ASCY	Y Control Auto Adjustment Value	Tv	0~127	0-7FH	64	40H
4	004H	FLAMINPC	Not Use	PC	0-255	0-FFH	0	0H
5	005H	FLAMAXPC	Not Use	PC	0-255	0-FFH	255	FFH
6	006H	ASBR	Not Use	PC	0-127	0-7FH	64	40H
7	007H	ASBG	Not Use	PC	0~127	0-7FH	64	40H
8	008H	ASBB	Not Use	PC	0-127	0-7FH	64	40H
9	009H	ASCR	Not Use	PC	0-127	0-7FH	54	40H
10	00AH	ASCG	Not Use	PC	0-127	0-7FH	64	40H
11	00BH	ASCB	Not Use	PC	0-127	0-7FH	64	40H
12	00CH	MBTV	Main Brightness (Black Level)	TV	0-255	0-FFH	94	5EH
13	00DH	MCTV	Main Contrast (Amplitude)	TV	0-255	0-FFH	176	80H
14	00EH	SBY	Y Black Level (Sub Brightness)	TV	0-255	0-FFH	128	80H
15	00FH	SCY	Y Amplitude (Sub Contrast)	TV	0-255	0-FFH	134	86H
16	010H	MBPC	Not Use	PC	0-255	0-FFH	88	58H
17	011H	MCPC	Not Use	PC	0-255	0-FFH	176	80H
18	012H	MCPC1V	Not Use	PC	0-255	0-FFH	148	94H
19	013H	SBR	Not Use	PC	0-255	0-FFH	128	80H
20	014H	SBG	Not Use	PC	0-255	0-FFH	128	80H
21	015H	SBB	Not Use	PC	0-255	0-FFH	128	80H
22	016H	SCR	Not Use	PC	0-255	0-FFH	168	A8H
23	017HJ	SCG	Not Use	PC	0-255	0-FFH	168	ASH
24	018H	SCB	Not Use	PC	0-255	0-FFH	168	ASH
25	019H	KMOSD	OSD Blend Ratio/Mode Switch		0-31	0-1FH	17	11H
26	01AH	OSDH	OSD Horizontal Standard Position		0-255	0-FFH 1	0	0H
27	01 BH	OSDV	OSD Vertical Standard Position		0-255^{1}	0-FFH	0	0H
28	01CH	HPHS0	Horizontal Sync Horizontal Phase (Main)	ANT/Video	0-255	0-FFH	128	80H
29	01 DH	HPHS1		480i	0-255	0-FFH	128	80H
30	01 EH	HPHS2		480p	0-255	0-FFH	128	80H
31	01FH	HPHS3		1080i	0-255	0-FFH	128	80H
32	020H	HPHS4		720p	0-255	0-FFH	128	80H
33	XJ21H	SHPHS0	Horizontal Sync Horizontal Phase (Sub)	ANT A/B. Video	0-255	0-FFH	128	80H
34	022H	SHPHS1		480i	0-255	0-FFH	128	80H
35	Q23H	SHPHS2		480p	0-255	0-FFH	128	80H
36	024H	SHPHS3		1080i	0-255	0-FFH	128	80H
37	025H	SHPHS4		720p	0-255	0-FFH	128	80H
36	026H	DMHPHS0	Horizontal Sync Horizontal Phase (DVI Main)	480i	0-255	0-FFH	128	80H
39	027H	DMHPHS1		480p	0-255	0-FFH	128	80H
40	028H	DMHPHS2		1080i	0-255	0-FFH	128	80H
41	029H	DMHPHS3		720p	0-255	0-FFH	128	80H
42	02AH	DMHPHS4		VGA	0-255	0-FFH	128	80H
43	028H	DMHPHS5		SAMSUNG 1080i	0-255	0-FFH	128	80H
44	02CH	DMHPHS6		SAMSUNG720P	0-255	0-FFH	128	80H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
45	02DH	DSHPHS0	Horizontal Sync Horizontal Phase (DVI Sub)	480i	0~255	0-FFH	128	80H
46	02EH	DSHPHS1		480p	0-255	0-FFH	128	80H
47	02FH	DSHPHS2		1080i	0-255	0-FFH	128	80H
48	030H	DSHPHS3		720p	0-255	0-FFH	128	80H
49	031H	DSHPHS4		VGA	0-255	0-FFH	28	80H
50	032H	DSHPHS5		SAMSUNG1080i	0-255	0-FFH	128	80H
51	033H	OSHPHS6		SAMSUNG720P	0~255	0-FFH	128	80H
52	034H	MVWHP0	Vertical Write Horizontal Phase (Main)	Main ANT/Video	0~7	0-TH	7	7H
53	035H	MVWHP1		Main 480i	0~7	0-7H	7	7H
54	036H	MVWHP2		Main 480p	0~7	0-7H	5	5H
55	037H	MVWHP3		Main 1080i	0~7	0-TH	3	3H
56	038H	MVWHP4		Main 720p	0-7	0-7H	6	6H
57	039H	SVWHP0	Vertical Write Horizontal Phase (Sub)	Sub ANT/VIdeo	0~7	0~7H	7	7H
58	03AH	SVWHP1		Sub 480i	0~7	0-7H	7	7H
59	038H	SVWHP2		Sub 480p	0-7	0-TH	5	5H
60	03CH	SVWHP4		Sub-1080i	0-7	0-TH	4	4H
61	03DH	SVWHP5		Sub 720p	0~7	0-7H	6	6H
62	03EH	DMVWHP0	Vertical Write Horizontal Phase (DVI Main)	480i	0~7	0-7H	7	7H
63	03FH	DMVWHP1		480p	0~7	0-7H	5	5H
64	040H	DMVWHP2		1080i	0~7	0-TH	1	1H
65	041 H	DMVWHP3		720p	0-7	0-TH	6	6H
66	042H	DMVWHP4		VGA	0-7	0-TH	5	5H
57	043H	DMVWHP5		SAMSUNG1080i	0-7	0-TH	7	7H
68	044H	DMVWHP6		SAMSUNG720P	0-7	0-7H	2	2H
69	045H	DSVWHP0	Vertical Write Horizontal Phase (DVI Sub)	480i	0-7	0-7H	7	7H
70	046H	DSVWHP1		480p	0-7	0-TH	5	5H
71	047H	DSVWHP2		1080i	0-7	0-7H	1	1H
72	048H	DSVWHP3		720p	0-7	0-7H	6	6H
73	049H	DSVWHP4		VGA	0-7	0-7H	5	5H
74	04AH	DSVWHP5		SAMSUNG1080i	0-7	0-7H	7	7H
75	04BH	DSVWHP6		SAMSUNG720P	0-7	0-7H	2	2H
76	04CH	MVWHPPC	Not Use	PC	0-7	0-7H	-	-
77	04DH	SWVOFSTOO	Sub Picture Write Position Offset	4Pix Sub ANT/Video	0~255	0-FFH	128	80H
78	04EH	SWVOFST10		PIP Sub ANT/NTSC	0-255	0-FFH	128	80H
79	04FH	HHPF0	Horizontal Filter Switch	ANT/Video/Multi	0-1	0-1H	0	0H
80	050H	HHPF1		480i/480p/1080i/720p	0-1	0-1H	0	0H
81	051H	HECOR0 P0	Not Use	ANT/Multi	0-15	0-FH	0	0H
82	052H	HECOR1 P0		Video	0-15	0-FH	0	0H
83	053H	HECOR2 P0		480i	0-15	0-FH	1	1H
84	054H	HECOR3 P0		480p	0-15	0-FH	1	1H
85	055H	HECOR4 P0		1080i/720p	0-15	0-FH	1	1H
85	056H	HECOR5 P0		ANT-3	0-15	0-FH	1	1H
87	057H	HECOR6 P0		ANTA/Video/480i	0-15	0-FH	3	3H
88	058H	HECOR7 P0		480p/1080i/720p	0-15	0-FH	3	3H
89	059H	HECORPC P0		PC	0-15	0-FH	1	1H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		initial	
90	05AH	VECORO P0	Not Use	ANT/Multi	0~15	0-FH	1	1H
91	05BH	VECOR1 P0		Video	0-15	Q-FH	1	1H
92	05CH	VECOR2 P0		480i	0-15	0-FH	2	2H
93	05DH	VECOR3 P0		480p	0-15	0-FH	0	0H
94	05EH	VECOR4 P0		1080i/720p	0~15	0-FH	0	0H
95	05FH	VECOR5 P0		ANT-3	0-15	0-FH	1	1H
96	060H	VECOR6 P0		ANT/Video/480i	0-15	0-FH	3	3H
97	061 H	VECOR7 P0		480p/1080i/720p	0~15	0-FH	15	FH
98	062H	VECORPC P0		PC	0~15	0-FH	0	0H
99	063H	HECORO P1	Not Use	ANT/Multi	0-15	0~FH	0	0H
100	064H	HECOR1_P1		Video	0-15	0~FH	0	0H
101	065H	HECOR2 PI		480i	0-15	0~FH	1	1H
102	066H	HECOR3 P1		480p	0-15	0-FH	1	1H
103	067H	HECOR4 P1		1080i/720p	0-15	0-FH	1	1H
104	068H	HECOR5 PI		ANT-3	0-15	0-FH	1	1H
105	069H	HECOR6 P1		ANT/Video/480i	0-15	0-FH	3	3H
106	06AH	HECOR7 P1		480p/1080i/720p	0-15	0-FH	3	3H
107	06BH	HECORPC P1		PC	0-15	0-FH	1	1H
108	06CH	VECORO PI	Not Use	ANT/Multi	0-15	0-FH	1	1H
109	06DH	VECOR1 P1		Video	0~15	0-FH	1	1H
110	06EH	VECOR2 P1		460i	0-15	0-FH	2	2H
111	06FH	VECOR3 PI		480p	0-15	0-FH	0	0H
112	070H	VECOR4 PI		1080i/720p	0-15	0-FH	0	0H
113	071 H	VECOR5 P1		ANT-3	0~15	0-FH	1	1H
114	072H	VECOR6 PI		ANT/Video/480i	0-15	0-FH	3	3H
115	073H	VECOR7 PI		480p/1080i/720p	0-15	0-FH	15	FH
116	074H	VECORPC PI		PC	0-15	0-FH	0	0H
117	075H	HECORO P2	Horizontal Coring	ANT/Multi	0-15	0-FH	0	0H
118	076H	HECOR1 P2		Video	0-15	0-FH	0	0H
119	077H	HECOR2 P2		480i	0-15	0-FH	1	1H
120	078H	HECOR3 P2		480p	0-15	0-FH	1	1H
121	079H	HECOR4 P2		1080i/720p	0~15	0-FH	0	0H
122	07AH	HECOR5 P2		ANT-3	0-15	0-FH	0	0H
123	07BH	HECOR6 P2		ANT/Video/480i	0-15	0-FH	0	0H
124	07CH	HECOR7 P2		480p/1080i/720p	0~15	0-FH	0	0H
125	07DH	HECORPC P2	Not Use	PC	0~15	0-FH	1	1H
126	07EH	VECORO P2	Vertical Coring	ANT/Multi	0-15	0-FH	1	1H
127	07FH	VECOR1 P2		Video	0-15	0-FH	1	1H
128	080H	VECOR2 P2		480i	0~15	0-FH	1	1H
129	081 H	VECOR3 P2		480p	0-15	0-FH	1	1H
130	082H	VECOR4 P2		1080i/720p	0~15	0-FH	0	0H
131	083H	VECOR5 P2		ANT-3	0-15	0-FH	0	0H
132	084H	VECOR6 P2		ANT/Video/480i	0~15	0-FH	0	0H
133	085H	VECOR7 P2		480p/1080i/720p	0-15	0-FH	0	0H
134	086H	VECORPC P2	Not Use	PC	0-15	0-FH	0	0H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
135	087H	MYNRG0	Main Y Frame Noise Reduction Input Gain (SPLIT)	ANT/Video/480i - ANT/Video/480i ANT/Video/480i - 480p/1080i/720p 480p/1080i/720p-ANT/Video/480i	0~7	0-7H	4	4H
136	088H	MYNRG1		480p/1080i/720p-480p/1080i/720p	0~7	0-7H	4	4H
137	089H	MYNRG2	Main Y Frame Noise Reduction Input Gain (4 Pix)	ANT/Video/480i - ANT/Video/480i ANT/Video/480i - 480p/1080i/720p	0~7	0-7H	4	4H
138	08AH	MYNRG3		480p/1080i/720p -ANT/Video/480i 480p/1080i/720p-480p/1080i/720p	0~7	0-7H	4	4H
139	08BH	SYNRG0	Sub Y Frame Noise Reduction Input Gain	2 Pix	0~7	0~7H	4	4H
140	08CH	SYNRG1	Sub Y Frame Noise Reduction Input	ANT/Video/480i - ANT/Video/480i 480p/1080i/720p-ANT/Video/480i	0-7	0-7H	4	4H
141	08DH	SYNRG2	Gain (4Pix/12Pix)	ANT/Video/480i - 480p/1080i/720p 480p/1080i/720p-480p/1080i/720p	0-7	0-7H	4	4H
142	08EH	MCNRG0	Main C Frame Noise Reduction Input Gain (SPLIT)	ANT/Video/480i - ANT/Video/480i ANT/Video/480i - 480p/1080i/720p 480p/1080i/720p-ANT/Video/480i	0~7	0-7H	4	4H
143	08FH	MCNRG1		480p/1080i/720p-480p/1080i/720p	0~7	0-7H	4	4H
144	090H	MCNRG2	Main C Frame Noise Reduction Input	ANT/Video/480i - ANT/Video/480i ANT/Video/480i - 480p/1080i/720p	0-7	0-7H	4	4H
145	091H	MCNRG3	Gain (4Pix)	480p/1080i/720p -ANT/Video/480i 480p/1080i/720p-480p/1080i/720p	0-7	0-7H	4	4H
146	092H	SCNRG0	Sub C Frame Noise Reduction Input Gain	2 Pix	0-7	0-7H	4	4H
147	093H	SCNRG1	Sub C Frame Noise Reduction Input Gain (4Pix/12Pix)	ANT/Video/480i - ANT/Video/480i 480p/1080i/720p-ANT/Video/480i	0-7	0-7H	4	4H
148	094H	SCNRG2		ANT/Video/480i - 480p/1080i/720p 480p/1080i/720p-480p/1080i/720p	0-7	0-7H	4	4H
149	095H	MYNRP0	Not Use (for PDP)	ANT/Multi	0-7	0-7H	0	0H
150	096H	MYNRP1		Video	0-7	0-7H	0	0H
151	097H	MYNRP2		480i	0-7	0-7H	0	0H
152	098H	MYNRP3		480p	0-7	0~ 7H	0	0H
153	099H	MYNRP4		1080i/720p	0-7	0-7H	0	0H
154	09AH	MYNRP5		ANT/Video-3	0-7	0-7H	0	0H
155	09BH	MCNRP0	Not Use (for PDP)	ANT/Multi	0-7	0~ 7H	2	2H
156	09CH	MCNRP1		Video	0-7	0~ 7H	2	2H
157	09DH	MCNRP2		480i	0-7	0-7H	2	2H
158	09EH	MCNRP3		480p	0-7	0-7H	2	2H
159	09FH	MCNRP4		1080i/720p	0-7	0~ 7H	0	0H
160	0A0H	MCNRP5		ANT/Video-3	0-7	0-7H	2	2H
161	0A1H	YVEGO_P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-15	0~FH	15	FH
162	0A2H	YVEG1 P0		480p	0-15	0-FH	4	4H
163	0A3H	YVEG2_P0		1080i/720p	0-15	0-FH	15	FH
164	0A4H	YVDSBGO P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-3	0-3H	0	0H
165	0A5H	YVDSBG1 P0		480p	0-3	0~ 3H	0	0H
166	0A6H	YVDSBG2 P0		1080i/720p	0-3	0-3H	3	3H
167	0A7H	YVDS9CO P0	Not Use (for PDP)	ANT/Video/480i/Multi	0~7	0-7H	0	0H
168	0A8H	YVDSBC1 P0		480p/1080i/720p	0-7	H	3	3H0-7
169	0A9H	YVECLP0 P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-1	0-1H	1	1H
170	0AAH	YVECLP1 P0		480p/1080i/720p	0-1	0~ 1H	0	0H
171	0ABH	YVECLPL0 P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-15	0-FH	15	FH
172	0ACH	YVECLPL1 P0		480p/1080i(720p	0-15	0-FH	2	2H
173	0ADH	YVNLPQ P0	Not Use (for PDP)	AN ideo/480i/Multi T/V	0-63	0-3FH	0	0H
174	0AEH	YVNLP1 P0		480p/1080i/720p	0-63	0~ 3FH	0	0H
175	0AFH	YHHPFO P0	Not Use (for PDP)	ANT/Video/Multi	0~3	0-3H	2	2H
176	0BOH	YHHPF1 P0		480i	0-3	0-3H	2	2H
177	0B1H	YHHPF2 P0		480p	0-3	0-3H	2	2H
178	0B2H	YHHPF3 P0		1080i/720p	0-3	0-3H	2	2H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
179	OB3H	YHEGO P0	Not Use (for PDP)	ANT/Video/480i/Multi	0~15	0-FH	15	FH
180	OB4H	YHEG1 P0		480p	0~15	0-FH	15	FH
181	085H	YHEG2 P0		1080i/720p	0~15	0-FH	15	FH
182	OB6H	YHDSBG0 P0	Not Use (for PDP)	ANT/Video/Multi	0-3	H	0-3 2	2H
183	OB7H	YHOSBG1 P0		480i	0-3	0-3H	2	2H
184	OB8H	YHDS3G2 P0		480p	0-3	0-3H	0	0H
185	OB9H	YHDSBG3 P0		1080i/720p	0-3	H	2 0-3	2H
186	OBAH	YHDSBC0 P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-7	0-7H	7	7H
187	OBBH	YHDSBC1 P0		480p/1080i/720p	0-7	0-7H	7	7H
188	OBCH	YHECLP0 P0	Not Use (for PDP)	ANT/Video/480i/Multi	0-1	0-1H	0	0H
189	OBDH	YHECLP1 P0		480p/1080i/720p	0-1	0-1H	0	0H
190	OBEH	YHECLPL0 P0	Not Use (for PDP)	ANT/Video/Multi	0-15	0-FH	4	4H
191	OBFH	YHECIPL1 P0		480i	0-15	0-FH	15	FH
192	OCOH	YHECLPL2 P0		480p/1080i/720p	0-15	0-FH	15	FH
193	OC1H	YHNLP0 P0	Not Use (for PDP)	ANT/Video/480i/Multi	0~63	0-3FH	0	0H
194	OC2H	YHNLP1 P0		480p/1080i/720p	0-63	0-3FH	0	0H
195	OC3H	YCOR0_P0	Not Use (for PDP)	ANT/Multi	0-7	0-7H	3	3H
196	OC4H	YCOR1 P0		Video	0-7	0-7H	2	2H
197	OC5H	YCOR2_P0		480i	0-7	0-7H	3	3H
198	OC6H	YCOR3 P0		480p	0-7	0-7H	2	2H
199	OC7H	YCOFW_P0		1080i/720p	0-7	H	2 0-7	2H
200	OC8H	YCOR5 P0		ANT/Video-3	0-7	H	07-7	7H
201	OC9H	YCOR6 P0		ANT/Video/480i	0-7	0-7H	7	7H
202	OCAH	YCOR7_P0		480p/1080i/720p	0~7	0-7H	7	7H
203	OCBH	YVEGO FH	Not Use (for PDP)	ANT/Video/480i/Multi	0-15	0-FH	15	FH
204	OCCH	YVEG1_P1		480p	0-15	0-FH	4	4H
205	OCDH	YVEG2_P1		1080i/720p	0-15	0-FH	15	FH
206	OCEH	YVDSBG0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-3	0-3H	0	0H
207	OCFH	YVDSBG1 P1		480p	0-3^	0-3H	0	0H
208	ODOH	YVDSBG2 P1		1080i/720p	0-3	H	3 0-3	3H
209	OD1H	YVDSBCO P1	Not Use (for PDP)	ANT/Video/480i/Multi	0~7	0-7H	0	0H
210	OD2H	YVDSBC1 P1		480p/1080i/720p	0-7	0-7H	3	3H
211	OD3H	YVECLP0_P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-1	0-1H	1	1H
212	OD4H	YVECLP1 P1		480p/1080i/720p	0~1	0-1H	0	0H
213	OD5H	YVECLPL0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-15	0-FH	15	FH
214	006H	YVECLPL1 P1		480p/1080i/720p	0-15	0-FH	2	2H
215	OD7H	YVNLP0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-63	0-3FH	0	0H
216	008H	YVNLP1 PI		480p/1080i/720p	0-63	0-3FH	0	0H
217	OD9H	YHHPF0 PI	Not Use (for PDP)	ANT/Video	0~3	H	2 0-3	2H
218	ODAH	YHHPF1 P1		480i	0-3	0-3H	2	2H
219	ODBH	YHHPF2 P1		480p	0-3	0-3H	2	2H
220	ODCH	YHHPF3 P1		1080i/720p	0-3	H	2 0-3	2H
221	ODDH	YHEG0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-15	0-FH	15	FH
222	ODEH	YHEG1 P1		480p	0-15	0~ FH	15	FH
223	ODFH	YHEG2 P1		1080i/720p	0-15	H	150-F	FH
224	OEOH	YHDSBG0 P1	Not Use (for PDP)	ANT/Video	0-3	0-3H	2	2H
225	OE1H	YHDSBG1 P1		480i	0-3	0-3H	2	2H
226	OE2H	YHDSBG2 P1		480p	0-3	0~ 3H	0	0H
227	OE3H	YHDSBG3 P1		1080i/720p	0-3	H	2 0-3	2H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
228	0E4H	YHDSBC0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-7	0-7H	7	7H
229	0E5H	YHDSBC1_P1		480p/1080i/720p	0-7	0-7H	7	7H
230	0E6H	YHECLP0 P1	Not Use (for PDP)	ANT/Video/480i/Multi	0-1	0-1H	0	0H
231	0E7H	YHECLP1 P1		480p/1080i/720p	0-1	0~ 1H	0	0H
232	0E8H	YHECLPL0_P1	Not Use (for PDP)	ANT/Video	0~15	0-FH	4	4H
233	0E9H	YHECLPL1_P1		480i	0-15	0-FH	15	FH
234	0EAH	YHECLPL2 P1		480p/1080i/720p	0-15	0-FH	15	FH
235	0E8H	YHNLP0JM	Not Use (for PDP)	ANT/Video/480i/Multi	0-63	0- 3FH	0	0H
236	0ECH	YHNLP1 PI		480p/1080i/720p	0~63	0~ 3FH	0	0H
237	0EDH	YCOR0 PI	Not Use (for PDP)	ANT/Multi	0-7	0-7H	3	3H
238	0EEH	YCOR1 P1		Video	0-7	0-7H	2	2H
239	0ERH	YCOR2 P1		480i	0-7	0-7H	3	3H
240	0F0H	YCOR3 PI		480p	0-7	0-7H	2	2H
241	0F1H	YCOR4 P1		1080i/720p	0-7	0-7H	2	2H
242	0F2H	YCOR5_P1		ANT/Video-3	0-7	0-7H	7	7H
243	0F3H	YCOR6_P1		AN ideo/480i	0-7	0-7H	7	T/V 7H
244	0F4H	YCOR7 PI		480p/1080i/720p	0-7	0-7H	7	7H
245	0F5H	YVEG0_P2	Y/G Vertical Enhance Gain	ANT/Video/480i/Multi	0—15	0-FH	6	6H
246	0F6H	YVEG1 P2		480p	0~15	0-FH	8	8H
247	0F7H	YVEG2 P2		1080i/720p	0—15	0-FH	8	8H
248	0F8H	YVDSBG0 P2	Y/G Vertical Dynamic Shoot Balance Gain	ANT/Video/480i/Multi	0~3	0-3H	0	0H
249	0F9H	YVDSBG1 P2		480p	0-3	0-3H	0	OH
250	0FAH	YVDSBG2 P2		1080i/720p	0-3	0-3H	0	OH
251	0F8H	YVDSBC0 P2	Y/G Vertical Dynamic Shoot Balance Coring	ANT/Video/480i/Multi	0-7	0-7H	7	7H
252	0FCH	YVDSBC1 P2		480p/1080i/720p	0-7	0-7H	7	7H
253	0FDH	YVECLP0 P2	Y/G Vertical Enhance	ANT/Video/480i/Multi	0-1	0-1H	0	OH
254	0FEK	YVECLP1 P2		480p/1080i/720p	0~1	0-1H	1	0H
255	0FFH	YVECLPL0 P2	Y/G Vertical Clip Offset Level	ANT/Video/480i/Multi	0-15	0-FH	15	FH
256	100H	YVECLPL1 P2		480p/1080i/720p	0~15	0~ FH	5	5H
257	101H	YVNLP0_P2	Y/G Vertical Non Unear Peaking	ANT/Video/480i/Multi	0~63	0-3FH	0	0H
258	102H	YVNLP1 P2		480p/1080i/720p	0~63	0-3FH	0	0H
259	103H	YHHPF0 P2	Y/G Horizontal HPF Peak Frequency Switch	ANT/Video/Multi	0-3	0-3H	2	2H
260	104H	YHHPF1 P2		480i	0-3	0-3H	2	2H
261	105H	YHHPF2 P2		480p	0-3	0-3H	2	2H
262	106H	YHHPF3 P2		1080i/720p	0-3	0-3H	1	1H
263	107H	YHEG0 P2	Y/G Horizontal Enhance Gain	ANT/Video/480i/Multi	0-15	0-FH	11	BH
264	108H	YHEG1_P2		480p	0~15	0-FH	10	AH
265	109H	YHEG2_P2		1080i/720p	0~15	0-FH	10	AH
266	10AH	YHDSBG0 P2	Y/G Horizontal Dynamic Shoot Balance Gain	ANT/Video/Multi	0-3	0-3H	1	1H
267	10BH	YHDSBG1 P2		480i	0-3	0-3H	1	1H
268	10CH	YHDSBG2 P2		480p	0-3	0-3H	1	1H
269	10DH	YHDSBG3 P2		1080i/720p	0~3	0-3H	2	2H
270	10EH	YHDSBCO P2	Y/G Horizontal Dynamic Shoot Balance Coring	ANT/Video/480i/Multi	0-7	0-7H	7	7H
271	10FH	YHDSBC1 P2		480p/1080i/720p	0-7	0-7H	7	7H
272	110H	YHECLPO P2	Y/G Horizontal Enhance	ANT/Video/480i/Multi	0-1	0-1H	0	0H
273	111H	YHECLP1 P2		480p/1080i/720p	0-1	0-1H	0	0H
274	112H	YHECLPL0 P2	Y/G Horizontal Clip Offset Level	ANT/Video/Multi	0-15	0-FH	7	7H
275	113H	YHECLPL1 P2		480i	0-15	0-FH	7	7H
276	114H	YHECLPL2 P2		480p/1080i/720p	0-15	0-FH	15	FH
277	115H	YHNLPO P2	Y/G Horizontal Non Linear Peaking	ANT/Video/480i/Multi	0-63	0-3FH	0	0H
278	116H	YHNLP1 P2		480p/1080i/720p	0~63	0-3FH	0	0H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
279	117H	YCOR0 P2	Y/G .Coring Amplitude	ANT/Multi	0-7	0-7H	3	3H
280	118H	YCOR1 P2		Video	0-7	0-7H	4	4H
281	119H	YCOR2 P2		480i	0~7	0-7H	4	4H
282	11AH	YCOR3 P2		480p	0-7	0-7H	4	4H
283	11BH	YCOR4 P2		1080i/720p	0-7	0-7H	31	3H
284	11CH	YCOR5 P2		ANT/Video-3	0~7	0-7H	7	7H
285	11DH	YCOR6 P2		ANT/Video/480i	0~7	0-7H	7	7H
286	11EH	YCOR7 P2		480p/1080i/720p	0-7	0-7H	7	7H
287	11FH	YLMT0	Y/G Amplitude Limit	ANT/Video/480i/Multi	0~255	0-FFH	255	FFH
288	120H	YLMT1		480p/1080i/720p	0-255	0-FFH	255	FFH
289	121H	CVEG0	B-Y/B. R-Y/R Vertical Enhance Gain	ANT/Video/480i/Multi	0~15	0-FH	15	FH
290	122H	CVEG1		4800/1 080V720p	0-15	0-FH	9	9H
291	123H	CVDSBG0	B-Y/B, R-Y/R Vertical Dynamic Shoot Balance Gain	ANT/VIdeo/480i/Multi	0-3	0-3H	0	0H
292	124H	CVDSBG1		480p/1080i/720p	0~3	0-3H	0	0H
293	125H	CVDSBC0	B-Y/B. R-Y/R Vertical Dynamic Shoot Balance Coring	ANT/Video/480i/Multi	0-7	0-7H	0	0H
294	126H	CVDSBC1		480p/1080i/720p	0-7	0~ 7H	0	0H
295	127H	CVECLP0	B-Y/B. R-YVR Verticai Enhance	ANT/Video/480i/Multi	0-1	0-1 H	0	0H
296	128H	CVECLP1		480p/1 080i/720p	0-1	0-1H	0	0H
297	129H	CHHPF0	B-Y/B. R-Y/R Horizontal HPF Peak Frequency Switch	ANT/Video/480i/Multi	0-3	0-3H	2	2H
298	12AH	CHHPF1		480p/1080i/720p	0-3	0-3H	2	2H
299	12BH	CHEG0	B-Y/8, R-Y/R Horizontal Enhance Gain	ANT/Video/480i/Multi	0-15	0-FH	15	FH
300	12CH	CHEG1		480p/1080i/720p	0-15	0-FH	9	9H
301	12DH	CHDSBG0	B-Y/B. R-Y/R Horizontal Dynamic Shoot Balance Gain	ANT/Video/480i/Multi	0~3	0-3H	0	0H
302	12EH	CHDSBG1		480p/1080i/720p	0-3	0-3H	0	0H
303	12FH^{n}	CHDSBC0	B-Y/B. R-Y/R G Horizontal Dynamic Shoot Balance Coring	ANT/Video/480i/Multi	0-7	0-7H	0	0H
304	130H	CHDSBC1		480p/1080i/720p	0-7	0-7H	0	0H
305	131 H	CHECLP0	B-Y/B, R-Y7R Horizontal Enhance	ANT/Video/480i/Multi	0~1	0-1H	0	0H
306	132H	CHECLP1		480p/1080i/720p	0-1	0~ 1H	0	0H
307	133H	CCOR0	B-Y/B. R-Y/R Coring Amplitude	ANT/Video/480i/Multi	0-7	0~ 7H	1	1H
308	134H	CCOR1		480p/1080V720p	0-7	0~7H	1	1H
309	135H	TCGON	TV/Cinema Vertical Gate Display ON	ANT/Video/480i 480p /1080i/720p	0-1	0~ 1H	0	0H
310	136H	TCGVS0	TV/Cinema Gate Vertical Start Position	ANT/Video/480i	0-255	0-FFH	72 I	48H
311	137H	TCGVW0	TV/Cinema Gate Vertical Width	ANT/Video/480i	0-255	0-FFH	100	64H
312	138H	TC23OFF0	2-3 Pull down TV/Cinema OFF	ANT/Video/480i	0~1	0-1H	0	0H
313	139H	TC23UL0	2-3 Pull down Unlock Protect Times	ANT/Video/480i	0-7	0~ 7H	0	0H
314	13AH	TC23L0	2-3 Pull down Lock Protect Times	ANT/Video/480i	0-7	0~ 7H	3	3H
315	138H	TCGVS1	TV/Cinema Gate Start Position	1080i	0-255	0-FFH	160	A0H
316	13CH	TCGVW1	TV/Cinema Gate Vertical Width	1080i	0-255	0-FFH	225	E1H
317	13DH	TC23OFF1	2-3 Pull down TV/Cinema OFF	1080i	0~1	0-1H	0	0H
318	13EH	TC23UL1	2-3 Pull down Unlock Protect Times	1080i	0-7	0~ 7H	0	0H
319	13FH	TC23L1	2-3 Pull down Lock Protect Times	1080i	0-7	0-7H	3	3H
320	140H	TC23YSL	2-3 Pull down Y Threshold	ANT/Video/480i/1080i	0-255	0-FFH	8	8H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		initial	
321	141H	TC23CSL	2-3 Pull down C Threshold	ANT/Video/480i/1080i	0-255	0-FFH	7	7H
322	142H	TC23MSL0	2-3 Pull down Moving Area Threshold	ANT/Video/480i	0-255	0-FFH	10	AH
323	143H	TC23MSL1		1080i	0-255	0-FFH	19	13H
324	144H	TC220FF	Not Use	ANT/Video/480i	0-1	0-1H	1	1H
325	145H	TC22UL	Not Use	ANT/Video/480i	0-7	0~ 7H	0	0H
326	146H	TC22L	Not Use	ANT/Video/480i	0-7	0-7H	7	7H
327	147H	TC22F1A	Not Use	ANT/Video/480i	0-255	0~FFH	7	7H
328	148H	TC22FR2	Not Use	ANT/Video/480i	0~255	0-FFH	10	AH
329	149H	TC22R	Not Use	ANT/Video/480i	0-255	0-FFH	13	DH
330	14AH	TC22FR	Not Use	ANT/Video/480i	0-255	0-FFH	35	23H
331	14BH	TC22TB	Not Use	ANT/Video/480i	0-255	0-FFH	7	7H
332	14CH	TCLOCK	TV/Cinema Flag [0]: Monitor [1]: Control [2]: 2-3 [3]: 2-2		0-15	0~ FH	-	-
333	14OH	SCDLYo	Cb, Cr (B, R) Picture Delay Adjustment	ANT/Video/Multi	0-3	0-3H	2	0H
334	14EH	SCDLY1		480i	0-3	0-3H	2	2H
335	14FH	SCOLY2		480p	0-3	0-3H	2	2H
336	150H	SCDLY3		1080i	0-3	0~ 3H	2	2H
337	151 H	SCDLY4		720p	0-3	0-3H	2	2H
338	152H	YMTES	Y Motion Detection	ANT/Video/480i/1080i	0-3	0-3H	0	0H
339	153H	CMTES	C Motion Detection	ANT/Video/480i/1080i	0-3	0-3H	0	0H
340	154H	IPMODE	IP Mode	ANT/Video/480i/1080i	0-3	0-3H	0	0H
341	155H	CINT	C Interpolation	ANT/Video/480i/1080i	0-1	0-1H	0	0H
342	156H	YNIP	Y Slant Interpolation OFF	ANT/Video/480i/1080i	0-1	0~ 1H	0	0H
343	157H	CNIP	C Slant Interpolation OFF	ANT/Video/480i/1080i	0-1	0~1H	0	0H
344	158H	YN1PHECR0	Y Slant Horizontal Edge Coring	ANT/Video/480i	0-255	0-FFH	4	4H
345	159H	YNIPHECR1		1080i	0-255	0-FFH	4	4H
346	15AH	YNIPSBCR	Y Slant Difference Coring	ANT/Video/480i/1080i	0~255	0-FFH	20	14H
347	15BH	YNIPV2CR	Y Slant Vertical Edge 2 Coring	ANT/Video/480i/1080i	0~255	0-FFH	20	14H
348	15CH	YNIPV1CR	Y Slant Vertical Edge 1 Coring	ANT/Video/480i/1080i	0-255	0-FFH	20	14H
349	15DH	YVEGA1N	Y Vertical Edge Detection Gain	ANT/Video/480i/1080i	0-3	0-3H	3	3H
350	15EH	YVECOR	Y Vertical Edge Detection Coring	ANT/Video/480i/1080i	0-15	0-FH	4	4H
351	15FH	YHEGA1N	Y Horizontal Edge Detection Gain	ANT/Video/480i/1080i	0-3	0~3H	3	3H
352	160H	YHECOR	Y Horizontal Edge Detection Coring	ANT/Video/480i/1080i	0~15	0-FH	4	4H
353	161H	YMEOGIN	Y Motion Detection Edge 0 Gain Selection	ANT/Video/480i/1080i	0~7	0~ 7H	5	5H
354	162H	YMEOCOR	Y Motion Detection Edge 0 Coring	ANT/Video/480i/1080i	0-31	0~1 FH	5	5H
355	163H	YME1GIN	Y Motion Detection Edge 1 Gain Selection	ANT/Video/480i/1080i	0-7	0-7H	5	5H
355	164H	YME1COR	Y Motion Detection Edge 1 Coring	ANT/Video/480i/1080i	0~31	0-1 FH	5	5H
357	165H	YME2G1N	Y Motion Detection Edge 2 Gain Selection	ANT/Video/480i/1080i	0-7	0-7H	2	2H
358	166H	YME2COR	Y Motion Detection Edge 2 Coring	ANT/Video/480i/1080i	0-31	0-1FH	8	8H
359	167H	YME3G1N	Y Motion Detection Edge 3 Gain Selection	ANT/Video/480i/1080i	0-7	0-7H	2	2H
360	168H	YME3COR	Y Motion Detection Edge 3 Coring	ANT/Video/480i/1080i	0~31	0-1FH	8	8H
361	169H	CMEOGIN	C Motion Detection Edge 0 Gain Selection	ANT/Video/480i/1080i	0~7	0-7H	4	4H
362	16AH	CMEOCOR	C Motion Detection Edge 0 Coring	ANT/Video/480i/1080i	0-31	0-1 FH	6	6H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
363	16BH	CME1GIN	C Motion Detection Edge 1 Gain Selection	ANT/Video/480i/1080i	0~7	0-7H	3	3H
364	16CH	CME1COR	C Motion Detection Edge 1 Coring	ANT/Video/480i/1080i	0-31	0-1 FH	. 8	8H
365	16DH	CME2GIN	C Motion Detection Edge 2 Gain Selection	ANT/Video/480i/1080i	0-7	0-7H	2	2H
366	16EH1	CME2COR	C Motion Detection Edge 2 Coring	ANT/Video/480l/1080i	0~31	0-1 F	10	AH
367	16FH	CME3GIN	C Motion Detecfion Edge 3 Gain Selection	ANT/Video/480i/1080i	0~7	0-7H	1	1H
368	170H	CME3COR	C Motion Detection Edge 3 Coring	ANT/Video/480i/1080i	0-31	0-1FH	12	CH
369	171H	MOVMD	Screen Saver Mode		0-3	0-3H	0	0H
370	172H	MOV VL	Screen Saver Movement Value MOV VL-Hdot		0-2	0-2H	0	0H
371	173H	MOVT0	Screen Saver Movement Time 1 0-60:0-60sec 61-120:1-60mm		0-120	0-78H	80	50H
372	174H	MOVT1	Screen Saver Movement Time 2 0-60:0-60sec 61-120:1-60min		0-120	0-78H	100	64H
373	175H	MOVT2	Screen Saver Movement Time 3 0-60:0-60sec 61-120:1-60min		0-120	0-78H	120	78H
374	176H	OPOFSCB0 P01	Not Use	ANT/Video/480i/480p	0-255	0-FFH	128	80H
375	177H	CLPOFSCR0 P01	Not Use	ANT/Video/480i/480p	0-255	0-FFH	128	80H
376	178H	CLPOFSCB1 P01	Not Use	1080i	0-255	0-FFH	128	80H
377	179H	CLPOFSCR1 P01	Not Use	1080i	0-255	0-FFH	128	80H
378	17AH	CLPOFSCB2 P01	Not Use	720p	0-255	0-FFH	128	80H
379	17BH	OPOFSCR2 P01	Not Use	720p	0-255	0-FFH	128	80H
380	17CH	CLPOFSCB3 P01	Not Use	DVI (Not VGA)	0-255	0-FFH	128	80H
381	17DH	CLPOFSCR3 P01	Not Use	DVI (Not VGA)	0-255	0-FFH	128	80H
382	17EH	CLPOFSCS4 P01	Not Use	DVI (VGA)	0-255	0-FFH	128	80H
383	17FH	CLPOFSCR4 P01	Not Use	DVI (VGA)	0-255	0-FFH	128	80H
384	180H	CLPOFSCBC_P2	B-Y Clamp offset {for LCD/PDP50")	ANT/Video/480i/480p	0-255	0-FFH	128	80H
385	181H	CLPOFSCRO P2	R-Y Clamp offset (for LCD/PDP50")	ANT/Video/480i/480p	0-255	0-FFH	128	80H
386	182H	CLPOFSCB1 P2	B-Y Clamp offset (for LCD/PDP50")	1080i	0-255	0-FFH	128	80H
387	183H	CLPOFSCR1 P2	R-Y Clamp offset (for LCD/PDP50")	1080i	0-255	0-FFH	128	80H
388	184H	CLPOFSCB2 P2	B-Y Clamp offset (for LCD/PDP50")	720p	0-255	0-FFH	128	80H
389	185H	CLPOFSCR2 P2	R-Y Clamp offset (for LCD/PDP50")	720p	0-255	0-FFH	128	80H
390	186H	CLPOFSCB3 P2	B-Y Clamp offset (for LCD/PDP50")	DVI (Not VGA)	0-255	0-FFH	128	80H
391	187H	CLPOFSCR3 P2	R-Y Clamp offset (for LCD/PDP50")	DVI (Not VGA)	0-255	0-FFH	128	80H
392	188H	CLPOFSC84 P2	B-Y Clamp offset (for LCD/PDP50")	DVI (VGA)	0-255	0-FFH	128	80H
393	189H	OPOFSCR4 P2	R-Y Clamp offset (for ICD/PDP50")	DVI (VGA)	0-255	0-FFH	128	80H
394	18AH	CMOFF	Cotor Management OFF		0-1	0-1H	0	0H
395	18BH	TNTOFF	Tint OFF		0~1	0-1H	0	CH
396	18CH	CLROFF	Color OFF		0-1	0-1H	0	0H
397	18DH	MODECM	Color Management Adjustment		0-4	0- 4H	1	1H
398	18EH	HUCENMC0	CbCr Hue Center 0 (MSB). (LSB)	(CbCr)	0-3	0-3H	0	0H
399	18RH	HUCENLC0			0-1023	0-3FFH	128	80H
400	190H	HUWC0	CbCr Hue Width 0	(CbCr)	0-255	0-FFH	128	80H
401	191H	HUCLPC0	CbCr Hue Clip 0 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	128	80H
402	192H	HUKC0	CbCr Hue Slope 0 (±127)	(CbCr)	0-255	0-FFH	32	20H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
403	193H	HUCENMC1	CbCr Hue Center 1 (MSB), (LSB)	(CbCr)	0-3	0-3H	1	1H
404	194H	HUCENLC1			0-1023	0-3FFH	322	142H
405	195H	HUWC1	CbCr Hue Width 1	(CbCr)	0~255	0-FFH	255	FFH
406	196H	HUCLPC1	CbCr Hue Clip 1 0: -128. 128: 0. 255: +127	(CbCr)	0~255	0-FFH	128	80H
407	197H	HUKC1	CbCr Hue Slope 1 (±127)	(CbCr)	0-255	0-FFH	64	40H
408	198H	HUCENMC2	CbCr Hue Center 2 (MSB). (LSB)	(CbCr)	0-3	0-3H	1	1H
409	199H	HUCENLC2			0-1023	0-3FFH	390	186H
410	19AH	HUWC2	CbCr Hue Width 2	(CbCr)	0-255	0-FFH	128	80H
411	19BH	HUCLPC2	CbCr Hue Clip 2 0: -128. 128: 0. 255: +127	(CbCr)	0-255	0-FFH	128	80H
412	19CH	HUKC2	CbCr Hue Slope 2 (±127)	(CbCr)	0-255	0-FFH	32	20H
413	19DH	HUCENMC3	CbCr Hue Center 3 (MSB). (LSB)	(CbCr)	0-3	0-3H	2	2H
414	19EH	HUCENLC3			0-1023	0-3FFH	596	254H
415	19FH	HUWC3	CbCr Hue Width 3	(CbCr)	0-255	0-FFH	255	FFH
416	1A0H	HUCLPC3	CbCr Hue Clip 3 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	133	85H
417	1A1H	HUKC3	CbCr Hue Slope 3 (±127)	(CbCr)	0-255	0-FFH	64	40H
418	1A2H	HUCENMC4	CbCr Hue Center 4 (MSB). (LSB)	(CbCr)	0-3	0-3H	3	3H
419	1A3H	HUCENLC4			0-1023	0-3FFH	834	342H
420	1MH	HUWC4	CbCr Hue Width 4	(CbCr)	0-255	0-FFH	255	FFH
421	1A5H	HUCLPC4	CbCr Hue Clip 4 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	128	80H
422	1A6H	HUKC4	CbCr Hue Slope 4 (±127)	(CbCr)	0-255	0-FFH	64	40H
423	1A7H	HUCENMC5	CbCr Hue Center 5 (MSB), (LSB)	(CbCr)	0-3	0-3H	3	3H
424	1ABH	HUCENLC5			0-1023	0-3FFH	941	3ADH
425	1A9H	HUWC5	CbCr Hue Width 5	(CbCr)	0-255	0-FFH	180	B4H
426	1AAH	HUCLPC5	CbCr Hue Clip 5 0: -128, 128: 0, 255: +127	(CbCr)	0-255	0-FFH	128	80H
427	1ABH	HUKC5	CbCr Hue Slope 5	(CbCr)	0-255	0-FFH	38	26H
428	1ACH	HUCENMC6	CbCr Auto Color Hue Center 6 (MSB). (LSB)	(CbCr)	0-3	0-3H	1	1H
429	1ADH	HUCENLC6			0-1023	0-3FFH	307	133H
430	1AEH	HUWC6	CbCr Auto Color Hue Width 6	(CbCr)	0-255	0-FFH	85	55H
431	1AFH	HUCLPC6	CbCr Auto Color Hue Clip 6 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	175	AFH
432	1BOH	HUKC6	CbCr Hue Slope 6 (±127)	(CbCr)	0-255	0-FFH	47	2FH
433	1B1H	HUCENMC7	CbCr Auto Color Hue Center 7 (MSB). (LSB)	{CbCr)	0-3	0-3H	1	1H
434	1B2H	HUCENLC7			0-1023	0-3FFH	392	133H
435	1B3H	HUWC7	CbCr Auto Color Hue Width 7	(CbCr)	0-255	0-FFH	85	55H
436	1B4H	HUCLPC7	CbCr Auto Color Hue Clip 7 0: -128 128:0 255: +127	(CbCr)	0-255	0-FFH	81	51 H
437	1B5H	HUKC7	CbCr Hue Slope 7 (±127)	(CbCr)	0-255	0-FFH	47	2FH
438	1B6H	SACENMC0	CbCr Saturation Hue Center 0 (MSB), (LSB)	(CbCr)	0-3	0-3H	0	0H
439	1B7H	SACENLC0			0-255	0-3FFH	128	80H
440	1B8H	SAWCO	CbCr Saturation Hue Width 0	(CbCr)	0-255	0-FFH	128	80H
441	1B9H	SACLPC0	CbCr Saturation Clip 0 0: -128. 128: 0. 255: +127	(CbCr)	0-255	0-FFH	128	80H
442	1BAH	SAKC0	CbCr Saturation Slope 0	(CbCr)	0-255	0-FFH	64	40H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
443	1BBH	SACENMC1	CbCr Saturation Hue Center 1 (MSB), (LSB)	(CbCr)	0-3	0-3H	1	1H
444	1BCH	SACENLC1			0-1023	0-3FFH.	323	143H
445	1BDH	SAWC1	CbCr Saturation Hue Width 1	(CbCr)	0-255	0-FFH	255	FFH
446	1BEH	SACLPC1	CbCr Saturation Clip 1 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	132	84H
447	1BFH	SAKC1	CbCr Saturation Slope 1	(CbCr)	0-255	0-FFH	64	40H
448	1COH	SACENMC2	CbCr Saturafion Hue Center 2 (MSB), (LSB)	(CbCr)	0-3	0-3H	1	1H
449	1C1H	SACENLC2			0-1023	0-3FFH	492	1ECH
450	1C2H	SAWC2	CbCr Saturation Hue Width 2	(CbCr)	0-255	0-FFH	255	FFH
451	1C3H	SACLPC2	CbCr Saturation Clip 2 0: -128. 128: 0. 255: +127	(CbCr)	0-255	0-FFH	128	80H
452	1C4H	SAKC2	CbCr Saturation Slope 2	(CbCr)	0~255	0-FFH	64	40H
453	1C5H	SACENMC3	CbCr Saturation Hue Center 3 (MSB). (LSB)	(CbCr)	0-3	0-3H	2	2H
454	1C6H	SACENLC3			0-1023	0-3FFH	643	283H
455	1C7H	SAWC3	CbCr Saturation Hue Width 3	(CbCr)	0-255	0-FFH	255	FFH
456	1C8H	SACLPC3	CbCr Saturation Clip 3 0: -1287 128: 0, 255: +127	(CbCr)	0-255	0-FFH	120	78H
457	1C9H	SAKC3	CbCr Saturation Slope 3	(CbCr)	0-255	0-FFH	64	40H
458	1CAH	SACENMC4	CbCr Saturation Hue Center 4 (MSB). (LSB)	(CbCr)	0-3	0-3H	3	3H
459	1C8H	SACENLC4			0-1023	0-3FFH	834	342H
460	1CCH	SAWC4	CbCr Saturation Hue Width 4	(CbCr)	0-255	0-FFH	128	80H
461	1C0H	SACLPC4	CbCr Saturation Clip 4 0: -128, 128: 0, 255: +127	(CbCr)	0-255	0-FFH	115	73H
462	1CEH	SAKC4	CbCr Saturation Slope 4	(CbCr)	0-255	0-FFH	64	40H
463	1CFH	SACENMC5	CbCr Saturation Hue Center 5 (MSB). (LSB)	(CbCr)	0-3	0-3H	3	3H
464	1D0H	SACENLC5			0-1023	0-3FFH	1004	3ECH
465	1D1H	SAWC5	CbCr Saturafion Hoe Width 5	(CbCr)	0-255	0-FFH	255	FFH
466	1D2H	SACLPC5	CbCr Saturation Clip 5 0: -128, 128: 0. 255: +127	(CbCr)	0-255	0-FFH	128	80H
467	1D3H	SAKC5	CbCr Saturation Slope 5	{CbCr)	0-255	0-FFH	64	40H
468	1D4H	[SACENMC6	CbCr Saturation Hue Center 6 (MSB), (LSB)	(CbCr)	0-3	0-3H	3	3H
469	1D5H	SACENLC6			0-1023	0-3FFH	931	3A3H
470	1DSH	SAWC6	CbCr Saturation Hue Width 6 45° =	(CbCr)	0-255	0-FFH	140	8CH
471	1D7H	SACLPC6	CbCr Saturation Clip 6 0: -128. 128: 0. 255: +127	(CbCr)	0-255	0-FFH	128	80H
472	1D8H	SAKC6	CbCr Saturation Slope 6	(CbCr)	0-255	0-FFH	42	2AH
473	1D9H	SACENMC7	CbCr Saturation Hue Center 7 (MSB). (LSB)	(CbCr)	0~3	0-3H	3	3H
474	1DAH	SACENLC7			0-1023	0-3FFH	845	34DH
475	1DBH	SAWC7	CbCr Saturation Hue Width 7	(CbCr)	0-255	0-FFH	70	46H
476	1DCH	SACLPC7	CbCr Saturation dip 7 0: -128. 128: 0, 255: +127	(CbCr)	0-255	0-FFH	128	80H
477	1DDH	SAKC7	CbCr Saturation Slope 7	(CbCr)	0-255	0-FFH	32	20H
478	1DEH	HUCENMP0	PbPr Hue Center 0 (MSB). (LSB)	(PbPr)	0-3	0-3H	3	3H
479	1DFH	HUCENLP0			0-1023	0-3FFH	790	31 6H
480	1EOH	HUWP0	PbPr Hue Width 0	(PbPr)	0-255	0-FFH	125	7DH
481	1E1H	HUCLPP0	PbPr Hue Clip 0 0: -128, 128: 0. 255: +127	(PbPr)	0-255	C-FFH	128	80H
482	1E2H	HUKP0	PbPr Hue Slope 0 (±127)	(PbPr)	0-255	0-FFH	32	20H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
483	1E3H	HUCENMP1	PbPr Hue Center 1	(PbPr)	0-3	0-3H	3	3H
484	1E4H	HUCENLP1	(MSB), (LSB)		0-1023	0-3FFH	870	366H
485	1E5H	HUWP1	PbPr Hue Width 1	(PbPr)	0-255	0-FFH	110	6EH
486	1E6H	HUCLPP1	PbPr Hue Clip 1 0: -128, 128: 0, 255: +127	(PbPr)	0~255	0-FFH	128	80H
487	1E7H	HUKP1	PbPr Hue Slope 1 (±127)	(PbPr)	0-255	0-FFH	52	34H
488	1E8H	HUCENMP2	PbPr Hue Center 2	(PbPr)	0-3	0-3H	1	1H
489	1E9H	HUCENLP2	(MSB), (LSB)		0-1023	0-3FFH	390	186H
490	1EAH	HUWP2	PbPr Hue Width 2 45* = 128	(PbPr)	0-255	0-FFH	128	80H
491	1EBH	HUCLPP2	PbPr Hue Clip 2 0: -128, 128: 0, 255: +127	(PbPr)	0-255	0-FFH	128	80H
492	1ECH	HUKP2	PbPr Hue Slope 2 (±127)	(PbPr)	0-255	0-FFH	32	20H
493	1EDH	HUCENMP3	PbPr Hue Center 3	(PbPr)	0-3	0-3H	2	2H
494	1EETT	HUCENLP3	(MSB). (LSB)		0-1023	0-3FFH	84	54H
495	1EFH	HUWP3	PbPr Hue Width 3	(PbPr)	0-255	0-FFH	255	FFH
496	1FOH	HUCLPP3	PbPr Hue Clip 3 0: -128, 128: 0, 255: +127	(PbPr)	0-255	0-FFH	133	85H
497	1F1H	HUKP3	PbPr Hue Slope 3 (±127)	(PbPr)	0-255	0-FFH	64	40H
438	1F2H	HUCENMP4	PbPr Hue Center 4	(PbPr)	0-3	0-3H	3	3H
499	1F3H	HUCENLP4	(MSB), (LSB)		0-1023	0- 3FFH	834	342H
500	1F4H	HUWP4	PbPr Hue Width 4	(PbPr)	0-255	0-FFH	255	FFH
501	1F5H	HUCLPP4	PbPr Hue dip 4 0: -128, 128: 0, 255: +127	(PbPr)	0-255	0- FFH	128	80H
502	1F6H	HUKP4	PbPr Hue Slope 4 (±127)	(PbPr)	0-255	0-FFH	64	40H
503	1F7H	HUCENMP5	PbPr Hue Center 5	(PbPr)	0-3	0-3H	1	1H
504	1F8H	HUCENLP5	(MSB). (LSB)		0-1023	0-3FFH	500	1F4H
505	1F9H	HUWP5	PbPr Hue Width 5	(PbPr)	0-255	0-FFH	100	64H
506	1FAH	HUCLPP5	PbPr Hue Clip 5 0: -128, 128: 0. 255: +127	(PbPr)	0-255	0-FFH	128	80H
507	1FBK	HUKP5	PbPr Hue Slope 5 (±127)	(PbPr)	0-255	0-FFH	33	21 H
508	1FCH	HUCENMP5	PbPr Hue Center 6	(PbPr)	0-3	0-3H	1	1H
509	1FDH	HUCENLP6	(MSB). (LSB)		0-1023	0-3FFH	307	133H
510	1FEH	HUWP6	PbPr Hue Width 6	(PbPr)	0-255	0-FFH	85	55H
511	1FFH	HUCLPP6	PbPr Hue Clip 6 0: -128, 128: 0. 255: +127	(PbPr)	0-255	0-FFH	128	80H
512	200H	HUKP6	PbPr Hue Slope 6 (±127)	(PbPr)	0-255	0-FFH	47	2FH
513	201H	HUCENMP7	PbPr Auto Color Hue Center 7	(PbPr)	0-3	0-3H	1	1H
514	202H	HUCENLP7	(MSB). (LSB)		0~1023	0-3FFH	392	1S8H
515	203H	HUYVP7	PbPr Hue Width 7	'(PbPr)	0-255	0-FFH	85	55H
516	204H	HUCLPP7	PbPr Hue Clip 7 0: -128, 128: 0, 255: +127	(PbPr)	0-255	0-FFH	128	80H
517	205H	HUKP7	PbPr Hue Slope 7 (±127)	{PbPr)	0-255	0-FFH	47	2FH

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
518	206H	SACENMP0	PbPr Saturation Hue Center 0 (MSB). (LSB)	(PbPr)	0-3	0- 3H	0	0H
519	207H	SACENLP0			0-1023	0-3FFH	128	80H
520	208H	SAWP0	PbPr Saturation Hue Width 0	(PbPr)	0-255	0-FFH	128	80H
521	209H	SACLPP0	PbPr Saturation Clip 0 0: -128, 128: 0. 255: +127	PbPr)	0-255	0-FFH	128	80H
522	20AH	SAKP0	PbPr Saturation Slope 0	(PbPr)	0-255	0-FFH	64	40H
523	20BH	SACENMP1	PbPr Saturation Hue Center 1 (MSB), (LSB)	(PbPr)	0-3	0-3H	1	1H
524	20CH	SACENLP1			0-1023	0-3FFH	323	143H
525	20DH	SAWP1	PbPr Saturation Hue Width 1	(PbPr)	0-255	0-FFH	255	FFH
526	20EH	SACLPP1	PbPr Saturation Clip 1 0: -128. 128: 0, 255: +127	(PbPr)	0-255	0-FFH	132	84H
527	20FH	SAKP1	PbPr Saturation Slope 1	(PbPr)	0-255	0-FFH	64	40H
528	210H^	SACENMP2	PbPr Saturation Hue Center 2 (MSB). (LSB)	{PbPr)	0-3	0-3H	1	1H
529	211H^	SACENLP2			0-1023	0-3FFH	498	1F2H
530	21 2H	SAWP2	PbPr Saturation Hue Width 2	(PbPr)	0-255	0-FFH	255	FFH
531	213H	SACLPP2	PbPr Saturation Clip 2 0: -128. 128: 0. 255: +127	(PbPr)	0-255	0-FFH	128	80H
532	214H	SAKP2	PbPr Saturation Slope 2	(PbPr)	0-255	0-FFH	64	40H
533	215H	SACENMP3	PbPr Saturation Hue Center 3 (MSB), (LSB)	{PbPr)	0~3	0- 3H	2	2H
534	216H	SACENLP3			0-1023	0- 3FFH	643	283H
535	217H	SAWP3	PbPr Saturation Hue Width 3	(PbPr)	0-255	0-FFH	255	FFH
536	218H	SACLPP3	PbPr Saturation Clip 3 0: -128. 128: 0, 255: +127	(PbPr)	0-255	0-FFH	120	78H
537	219H	SAKP3	PbPr Saturation Slope 3	(PbPr)	0-255	0-FFH	64	40H
538	21 AH	SACENMP4	PbPr Saturation Hue Center 4 (MSB), (LSB)	(PbPr)	0~3	0- 3H	3	3H
539	21 BH	SACENLP4			0-1023	0-3FFH	834	342H
540	21CH	SAWP4	PbPr Saturation Hue Width 4	(PbPr)	0-255	0-FFH	128	80H
541	21DH	SACLPP4	PbPr Saturation Clip 4 0: -128. 128: 0, 255: +127	(PbPr)	0-255	0-FFH	115	73H
542	21 EH	SAKP4	PbPr Saturation Slope 4	(PbPr)	0-255	0-FFH	64	40H
543	21 FH	SACENMP5	PbPr Saturation Hue Center 5 (MSB), (LSB)	(PbPr)	0-3	0-3H	3	3H
544	220H	SACENLP5			0~1023	0-3FFH	1004	3ECH
545	221 H	SAWP5	PbPr Saturation Hue Width 5	(PbPr)	0-255	0-FFH	128	80H
546	222H	SACLPP5	PbPr Saturation Clip 5 0: -128, 128: 0, 255: +127	(PbPr)	0-255	0-FFH	128	80H
547	223H	SAKP5	PbPr Saturation Slope 5	(PbPr)	0-255	0-FFH	64	40H
548	224H	SACENMP6	PbPr Saturation Hue Center 6 (MSB), (LSB).	(PbPr)	0-3	0-3H	3	3H
549	225H	SACENLP6			0-1023	0-3FFH	931	3A3H
550	226H	SAWP6	PbPr Saturation Hue Width 6	{PbPr)	0-255	0-FFH	140	8CH
551	227H	SACLPP6	PbPr Saturation Clip 6 0: -128, 128: 0, 255: +127	PbPr)	0-255	0-FFH	128	80H
552	228H	SAKP6	PbPr Saturation Slope 6	(PbPr)	0-255	0-FFH	42	2AH
553	229H	SACENMP7	PbPr Saturation Hue Center 7 (MSB). (LSB)	(PbPr)	0-3	0-3H	2	2H
554	22AH	SACENLP7			0-1023	0-3FFH	634	27AH
555	22BH	SAWP7	PbPr Saturation Hue Width 7	(PbPr}	0-255	0-FFH	120	78H
556	22CH	SACLPP7	PbPr Saturation Clip 7 0: -128, 128: 0, 255: +127	PbPr)	0-255	0-FFH	128	80H
557	22DH	SAKP7	PbPr Saturation Slope 7	(PbPr)	0-255	0-FFH	33	21 H
558	22EH	REAL	Not Use	PC	0-1	0-1H	0	0H

BACK TO ADJUSTMENTS

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
559	22FH	FRMLEV0	Frame Brightness	Single	0-255	0- FFH	90	5AH
560	230H	FRMLEV1		Multi	0~255	0-FFH	90	5AH
561	231H	FRMLEV2	Not Use	PC	0-255	0-FFH	90	5AH
562	232H	FHMINMSB	Not Use	PC	0-255	0-FFH	0x27	
563	233H	FHMINLSB	Not Use	PC	0		0x10	
564	234H	FHMAXMSB	Not Use	PC	0-255	0-FFH	0x08	
565	235H	FHMAXLSB	Not Use	PC	0		0x99	
566	236H	FVMINMSB	Not Use	PC	0-255	0-FFH	0x3d	
567	237H	FVMINLSB	Not Use	PC	0		0x09	
568	238H	FVMAXMSB	Not Use	PC	0-255	0-FFH	0x21	
569	239H	FVMAXLSB	Not Use	PC	0		0xac	
570	23AH	LMINMSB	Not Use	PC	0-255	0-FFH	0x01	
571	23BH	LMINLSB	Not Use	PC	0		0x9d	
572	23CH	LMAXMSB	Not Use	PC	0-255	0-FFH	0x05	
573	23DH	LMAXLSB	Not Use	PC	0		0x14	
574	23EH	HRNG	Not Use	PC	0-255	0-FFH	128	80H
575	23FH	VRNG	Not Use	PC	0-255	0-FFH	128	80H
576	240H	LRNG	Not Use	PC	0-255	0-FFH	2	2H
577	241H	NGVS	Not Use	PC	0-255	0-FFH	16	FH
578	242H	HDCPV	HDCP V Change	1080i/720P (PC/TV)	0-255	0-FFH	0	0H
579	243H	WCKM1N	Not Use	PC	0-255	0-FFH	20	32H
580	244H	WCKMAX	Not Use	PC	0-255	0-FFH	82	52H
581	245H	DSWCK	Not Use	PC	0-255	0-FFH	80	50H
582	246H	PCCLPS0	Not Use	PC	0-255	0-FFH	2	2H
583	247H	PCCLPS1	Not Use	PC (1080i)	0-255	0-FFH	2	2H
584	248H	PCCLPS2	Not Use	PC (720P)	0-255	0-FFH	2	2H
585	249H	PCCLPW0	Not Use	PC	0-255	0-FFH	8	8H
586	24AH	PCCLPW1	Not Use	PC (1080i)	0-255	0-FFH	8	8H
587	24BH	PCCLPW2	Not Use	PC (720P)	0-255	0-FFH	8	8H
588	24CH	MTBCVP	Not Use	PC (1080i/720 P)	0-255	0-FFH	100	64H
589	24DH	OEDLYOFS	Not Use	PC	0-255	0-FFH	128	80H
590	24EH	SDPLLDIV	Not Use	PC	0-63	0- 4FH	43	2BH
591	24FH	CLKXODIV	Not Use	PC	0-31	0-1FH	28	1CH
592	250H	HPREOFS P0	Not Use	PC	0-255	0-FFH	128	40H
593	251H j	HPREOFS P1	Not Use	PC	0-255	0-FFH	128	80H
594	252H	HPREOFS P2	Not Use	PC	0-255	0-FFH	128	80H
595	253H	HPREM0	Not Use	PC	0-3	0- 3H	1	1H
596	254H	HPREDS	Not Use	PC	0-3	0- 3H	0	0H
597	255H	VPREON	Not Use	PC	0-1	0-1H	0	0H
598	256H	TVPLLSW	TV PLL Switch 0: External, 1: Internal	TV	0-1	0-1H	0	0H
599	257H	VCOMAX	VCO Maximum Frequency (500MHz ± 127MHz)		0-255	0-FFH	128	80H
600	258H	PFDSW	PFD Switch Frequency (400MHz ±127MHz)		0-255	0-FFH	38	26H
601	259H	PFD0	PFD 0		0-7	0-7H	2	2H
602	25AH	PFD1	PFD 1		0-7	0-7H	3	3H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Flange		Initial	
603	25BH	BSSP	Black Changing Speed 0: fast. 63:late	TV	0-63	0-4FH	2	2H
604	25CH	BSSTEP	Black Stretch Adjustment Step 0:direct 1~3:1~ 3step	TV	0~3	0-3H	0	0H
605	25DH	BSSTART	Black Stretch Start Level	TV	0-255	0-FFH	11	6EH
606	25EH	8SAPL0	Black Stretch Start APL	TV	0-255	0-FFH	20	14H
607	25FH	BSAPL1	Black Stretch Change Point 1 APL	TV	0-255	0-FFH	35	23H
608	260H	BSAPL2	Black Stretch Change Point 2 APL	TV	0~255	0-FFH	75	4BH
609	261H	BSAPL3	Black Stretch Change Point 3 APL	TV	0-255	0-FFH	100	64H
610	262H	BSAPL4	Black Stretch Change Point 4 APL	TV	0-255	0-FFH	115	73H
611	263H	BSGAIN0	Black Stretch Start Gain	TV	0~63	0-3FH	0	0H
612	264H	BSGAIN1	Black Stretch Change Point 1 Gain	TV	0-63	0-3FH	7	7H
613	265H	BSGA1N2	Black Stretch Change Point 2 Gain	TV	0-63	0-3FH	15	FH
614	266H	BSGAIN3	Black Stretch Change Point 3 Gain	TV	0~63	0-3FH	20	14H
615	267H	BSGA1N4	Black Stretch Change Point 4 Gain	TV	0-63	0-3FH	20	14H
616	268H	BSGAJNR	Black Stretch Gain Adjustment	TV	0-63	0-3FH	-	-
617	269H	BCSTEP	Black Correction Adjustment Step 0:dired 1~3:1~ 3step	TV	0-3	0-3H	1	1H
618	26AH	BCAPL0	Black Correction Start APL	TV	0-255	0-FFH	100	64H
619	268H	BCAPL1	Black Correction Changing Point 1 APL	TV	0-255	0-FFH	115	73H
620	26CH	BCAPL2	Black Correction Changing Point 2 APL	TV	0-255	0-FFH	130	82H
621	26DH	BCAPL3	Black Correction Changing Point 3 APL	TV	0-255	0- FFH	145	91 H
622	26EH	BCAPL4	Black Correction Changing Point 4 APL	TV	0-255	0-FFH	160	A0H
623	26FH	BCLEV0	Black Stretch Start Correction Level	TV	0-63	0-3FH	0	0H
624	270H	BCLEV1	Black Correction Changing Point 1 Level	TV	0-63	0-3FH	5	5H
625	271H	BCLEV2	Black Correction Changing Point 2 Level	TV	0-63	0-3FH	10	AH
626	272H	BCLEV3	Black Correction Changing Point 3 Level	TV	0-63	0-3FH	15	FH
627	273H	BCLEV4	Black Correction Changing Point 4 Level	TV	0-63	0-3FH	25	19H
628	274H	BCLEVR	Black Correction Level Adjustment	TV	0-63	0-3FH	-	-
629	275H	BCCONST	Black Correction Contrast Control Start level	TV	0-63	0-3FH	0	0H
630	276H	BCCONMAX	Black Correction Contrast Control Maximum Value	TV	0-63	0-3FH	5	5H
631	277H	BCCON	Black Correction Contrast Control Value	TV	0-63	0-3FH	-	-
632	27BH	GDOWNSP	Gain Down Speed STEP = (SP+1)*8	TV	0-255	0-FFH	100	64H
633	279H	GUPSP	Gain Up Speed STEP = (SP+1)*8	TV	0-255	0-FFH	63	3FH
634	27AH	ACW	Auto Contrast ON/OFF/Width	TV	0-63	0-3FH	63	3FH
635	278H	DCW	Dynamic Contrast ON/OFF/Width	TV	0-127	0-7FH	16	10H
636	27CH	DCBTMW	Lower APL Dynamic Contrast Adjustment Width	TV	0-127	0-7FH	0	0H
637	27DH	MAXHIGH0	Auto Contrast Maximum Upper Limit	TV	0-255	0~FFH	223	DFH
638	27EH	MAXLOW0	Auto Contrast Maximum Lower Limit	TV	0-255	0-FFH	217	D9H
639	27FH	MAXHIGH1	Dynamic Contrast Maximum Upper Limit	TV	0-255	0-FFH	223	DFH
640	280H	MAXLOW1	Dynamic Contrast Maximum Lower Limit	TV	0-255	0-FFH	150	96H
641	281 H	APLHIGH	High APL Threshold	TV	0-255	0-FFH	130	82H
642	282H	APLLOW	Low APL Threshold	TV	0-255	0-FFH	90	5AH
643	283H	APLBTM	Lower APL Threshold	TV	0-255	0-FFH	70	46H

III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initiial	
644	284H	DGCMSB	Dynamic Contrast Gain Control Offset (MSB)	TV	0-255	0-FFH	-	-
645	285H	DGCLSB	Dynamic Contrast Gain Control Offset (LSB)	TV	0-255	0-FFH	-	-
646	286H	DCCOLST	Dynamic Contrast Color Correction Star t Gain	TV	0-127	0-7FH	63 .	3FH
647	287H	DCCOLMAX	Dynamic Contrast Color Correction Max	TV	0-63	0-3FH	25	19H
648	288H	DCCOL	Dynamic Contrast Color Correction	TV	0-63	0-3FH	.	-
649	28SH	OCVESTART	Dynamic Contrast Vertical Enhance Correction Start Gain	TV	0-255	0— FFH	56	38H
650	2SAH	DCVEEND	Dynamic Contrast Vertical Enhance Correction End Gain	TV	0-255	0— FFH	63	3FH
651	28BH	DCHESTART	Dynamic Contrast Horizontal Enhance Correction Start Gain	TV	0-255	0-FFH	56	38H
652	28CH	DCHEEND	Dynamic Contrast Horizontal Enhance Correction End Gain	TV	0-255	0—FFH	64	40H
653	28DH	DCVE	Dynamic Contrast Vertical Enhance Correction	TV	0-255	0-FFH	-	-
654	28EH	DCHE	Dynamic Contrast Horizontal Enhance Correction	TV	0-255	0-FFH	-	-
655	28FH	DGSTEP	Dynamic Gamma Change	TV	0-128	0- 80H	5	5H
656	290H	DGAPL0	Dynamic Gamma APL Point 0	TV	0-255	0-FFH	0	OH
657	291H	DGAPL1	Dynamic Gamma APL Point 1	TV	0-255	0-FFH	30	1EH
658	292H	DGAPL2	Dynamic Gamma APL Point 2	TV	0-255	0-FFH	92	5CH
659	293H	DGAPL3	Dynamic Gamma APL Point 3	TV	0-255	0-FFH	125	7DH
660	294H	DGAPL4	Dynamic Gamma APL Point 4	TV	0-255	0-FFH	160	A0H
661	295H	DGAPL5	Dynamic Gamma APL Point 5	TV	0-255	0-FFH	215	D7H
662	296H	DGAPL0GM	Dynamic Gamma APL Point 0 Gamma Select	TV	0-2	0-2H	0	0H
663	297H	DGAPL1GM	Dynamic Gamma APL Point 1 Gamma Select	TV	0-2	0- 2H	1	1H
664	298H	DGAPL2GM	Dynamic Gamma APL Point 2 Gamma Select	TV	0-2	0-2H	1	1H
665	299H	DGAPL3GM	Dynamic Gamma APL Point 3 Gamma Select	TV	0-2	0-2H	1	1H
666	29AH	DGAPL4GM	Dynamic Gamma APL Point 4 Gamma Select	TV	0-2	0-2H	2	2H
667	29BH	DGAPL5GM	Dynamic Gamma APL Point 5 Gamma Select	TV	0-2	0-2H	2	2H
668	29CH	GM08	Gamma 8 Adjustment (Dark)	TV	0-128	0- 80H	128	80H •
669	290H	GM07	Gamma 7 Adjustment (Dark)	TV	0-255	0-FFH	224	E0H
670	29EH	GM06	Gamma 6 Adjustment (Dark)	TV	55	0-FF0H-2	192	C0H
671	29FH	GM05	Gamma 5 Adjustment (Dark)	TV	0-255	0-FFH	160	A0H
672	2A0H	GM04	Gamma 4 Adjuslment (Dark)	TV	0-255	0-FFH	128	80H
673	2A1H	GM03	Gamma 3 Adjustment (Dark)	TV	0-255	0- FFH	96	60H
674	2A2H	GM02	Gamma 2 Adjustment (Dark)	TV	0-255	0-FFH	64	40H
675	2A3H	GM01	Gamma 1 Adjustment (Dark)	TV	0-255	0-FFH	32	20H
676	2MH	GM00	Gamma 0 Adjustment (Dark)	TV	0-255	0-FFH	0	0H

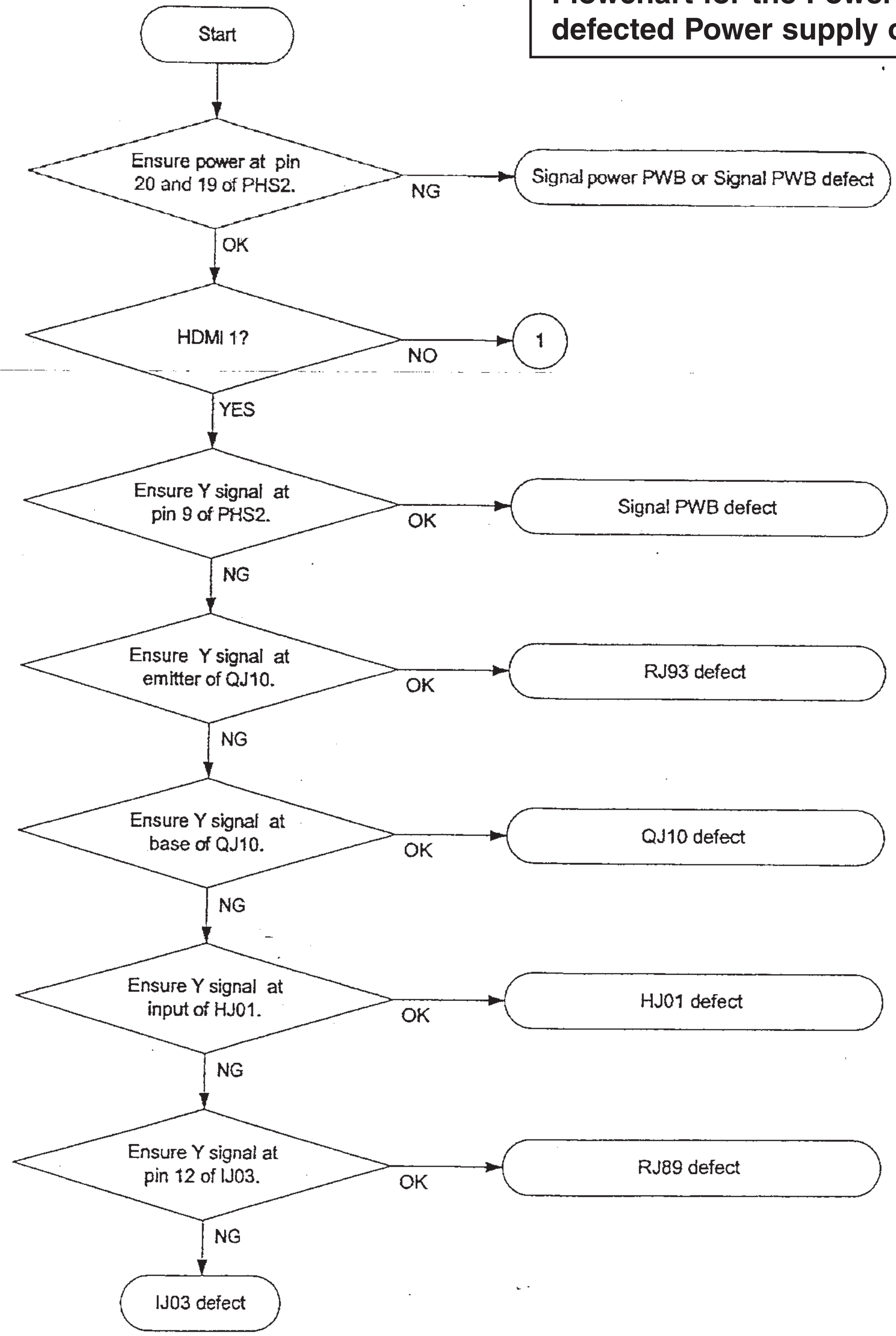
III. ASSEMBLED P.W.B. ADJUSTMENT

No.	EEP	LABEL	Adjustment Item	Mode	Range		Initial	
677	2A5H	GM18	Gamma 8 Adjustment (Normal)	TV	0~128	0-FFH	128	80H
678	2A6H	GM17	Gamma 7 Adjustment (Normal)	TV	0-255	0-FFH	228	E4H
679	2A7H	GM16	Gamma 6 Adjustment (Normal)	TV	0-255	0-FFH	200	C8H
680	2A8H	GM15	Gamma 5 Adjustment (Normal)	TV	0-255	0-FFH	171	ABH
681	2A9H	GM14	Gamma 4 Adjustment (Normal)	TV	0-255	0-FFH	141	8DH
682	2AAH	GM13	Gamma 3 Adjustment (Normal)	TV	0-255	0-FFH	106	6AH
683	2ABH	GM12	Gamma 2 Adjustment (Normal)	TV	0-255	0-FFH	74	4AH
684	2ACH	GM11	Gamma 1 Adjustment (Normal)	TV	0-255	0-FFH	34	22H
685	2ADH	GM10	Gamma 1 Adjustment (Normal)	TV	0-255	0- FFH	0	0H
686	2AEH	GM28	Gamma 8 Adjustment (Light)	TV	0-128	0- 80H	128	80H
687	2AFH	GM27	Gamma 7 Adjustment (Light)	TV	0-255	0-FFH	224	E0H
688	2B0H	GM26	Gamma 6 Adjustment (Light)	TV	0-255	0-FFH	193	C1H
68S	2B1H	GM25	Gamma 5 Adjustment (Light)	TV	0-255	0-FFH	155	9BH
690	2B2H	GM24	Gamma 4 Adjustment (Light)	TV	0-255	0-FFH	123	7BH
691	2B3H	GM23	Gamma 3 Adjustment (Light)	TV	0-255	0-FFH	90	5AH
692	2B4H	GM22	Gamma 2 Adjustment (Light)	TV	0-255	0- FFH	55	37H
693	2B5H	GM21	Gamma 1 Adjustment (Light)	TV	0-255	0-FFH	24	18H
694	2B6H	GM20	Gamma 0 Adjustment (Light)	TV	0-255	0-FFH	0	0H
695	2B7H	ATCSL	ATC Picture Slice Level		0-255	0-FFH	102	66H
696	2B8K	ATCHDLY	ATC Horizontal Picture Detection Offset		0-255	0-FFH	-	-
697	2B9H	ATCLPF	ATC Max/Min Detection LPF Switch		0-3	0-3H	3	3H
698	2BAH	SHSTM	Horizontal Picture Start Position (MSB)		0-15	0- FH	-	-
699	28BH	SHSTL	Horizontal Picture Start Position (LSB)		0		-	-
700	2BCH	SHEDM	Horizontal Picture End Position (MSB)		0-15	0-FH	-	-
701	2BDH	SHEDL	Horizontal Picture End Position (LSB)		0		-	-
702	2BEH	SVSTM	Vertical Picture Start Position (MSB)		0-7	0-7H	-	-
703	28FH	SVSTL	Vertical Picture Start Position (LSB)		0		-	-
704	2C0H	SVEDM	Vertical Picture End Position (MSB)		0-7	0-7H	-	-
705	2C1H	SVEDL	Vertical Picture End Position (LSB)		0		-	-
706	2C2H	VHPHSM	Vsync-->Hsync Phase Detection (MSB)		0-31	0-1 FH	-	-
707	2C3H	VHPHSL	Vsync--> Hsync Phase Detection (LSB)		0		-	-
708	2C4H	INFOWINON	Information Window ON/OFF 0:PCWIN 1 -.INFORMATION MODE		0-1	0-1H	0	0H
709	2C5H	INFOVFIL	Information Window Filter ON/OFF 0:OFF 1:ON	INFOWIN	0-1	0-1H	0	0H
710	2C8H	INFOVPOS	Information Window Vertical Position Offset	INFOWIN	0-255	0-FFH	128	B0H
711	2C7H	INFOHPOS	Information Window Horizontal Position Offset	INFOWIN	0-255	0-FFH	128	80H
712	2C8H	IMSHPHSO	Information Window Horizontal Sync Horizontal Phase	INFOWIN ANT	0-255	0- FFH	128	80H
713	2C9H	IMSHPHS1		INFOWIN 480i	0-255	0-FFH-	124	7CH
714	2CAH	IMSHPHS2		INFOWIN 1080i	0-255	0-FFH	128	B0H
715	2CBH	MBtW	Information Window Brightness Offset	INFOWIN	0-255	0-FFH	128	80H
716	2CCH	MCIW	Information Window Contrast Offset	INFOWIN	0-255	0~FFHj	103	67H
717	2CDH	INFOCOL	Information Window Color Adjustment	INFOWIN	0-127	0-7FH	90	5AH
718	2CEH	INFOTINT	Information Window Tint Adjustment	INFOWIN	0-255	0-FFH	138	8AH
719	2CFH	IMSOPLLDIV	Information Window Clock	INFOWIN	0-63	0-3FH	47	2FH
720	2D0H	POEINV	Parity Signal Invert 0:Sil861 1:Sn169		0-1	0-1H	1	1H
721	2D1H	EEPRENEW	EEPROM Initial		0-255	0-FFH	-	-
722	2D2H	EEPINIT	EEPROM ALL Initial		0-255	0-FFH	-	-

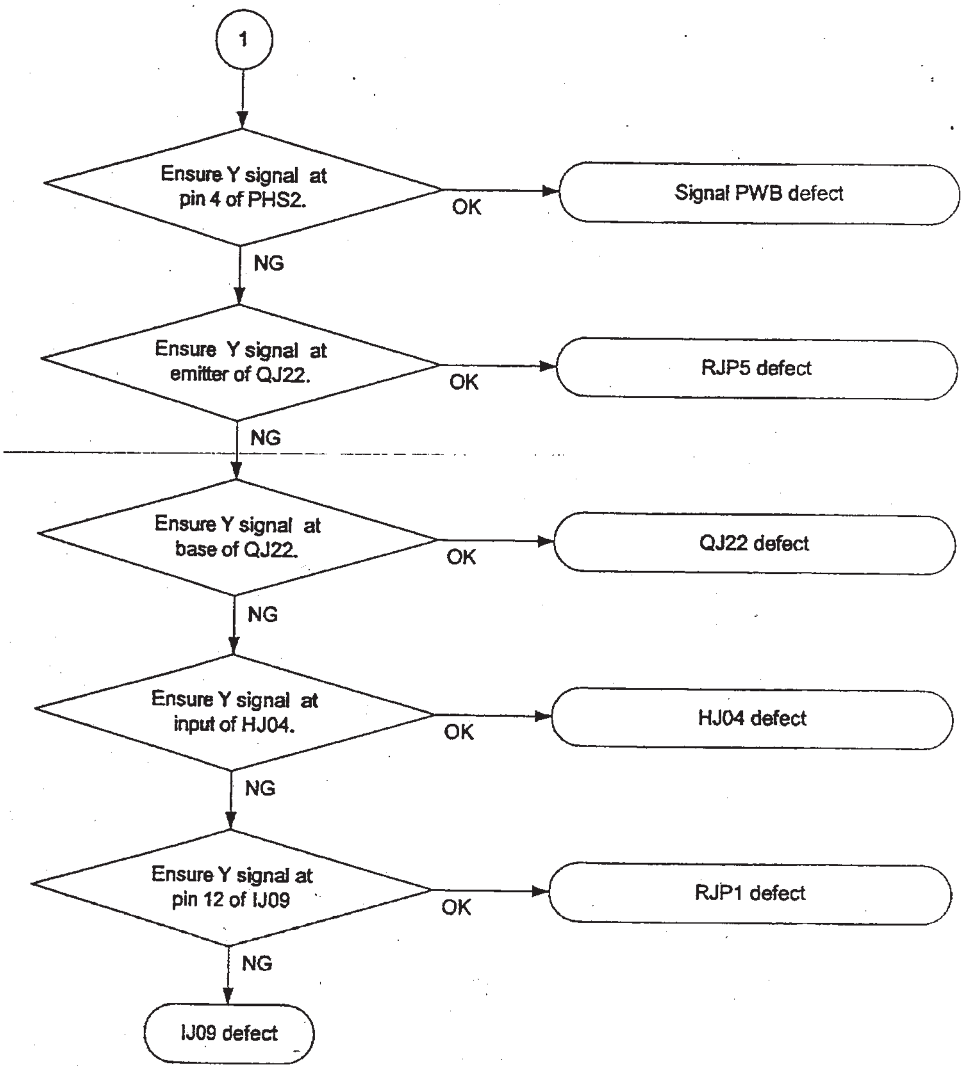
Trouble shooting for HDMI

Note: - Please note that no Trouble Shooting Flowchart for the Power PWB due to exchange defected Power supply only.

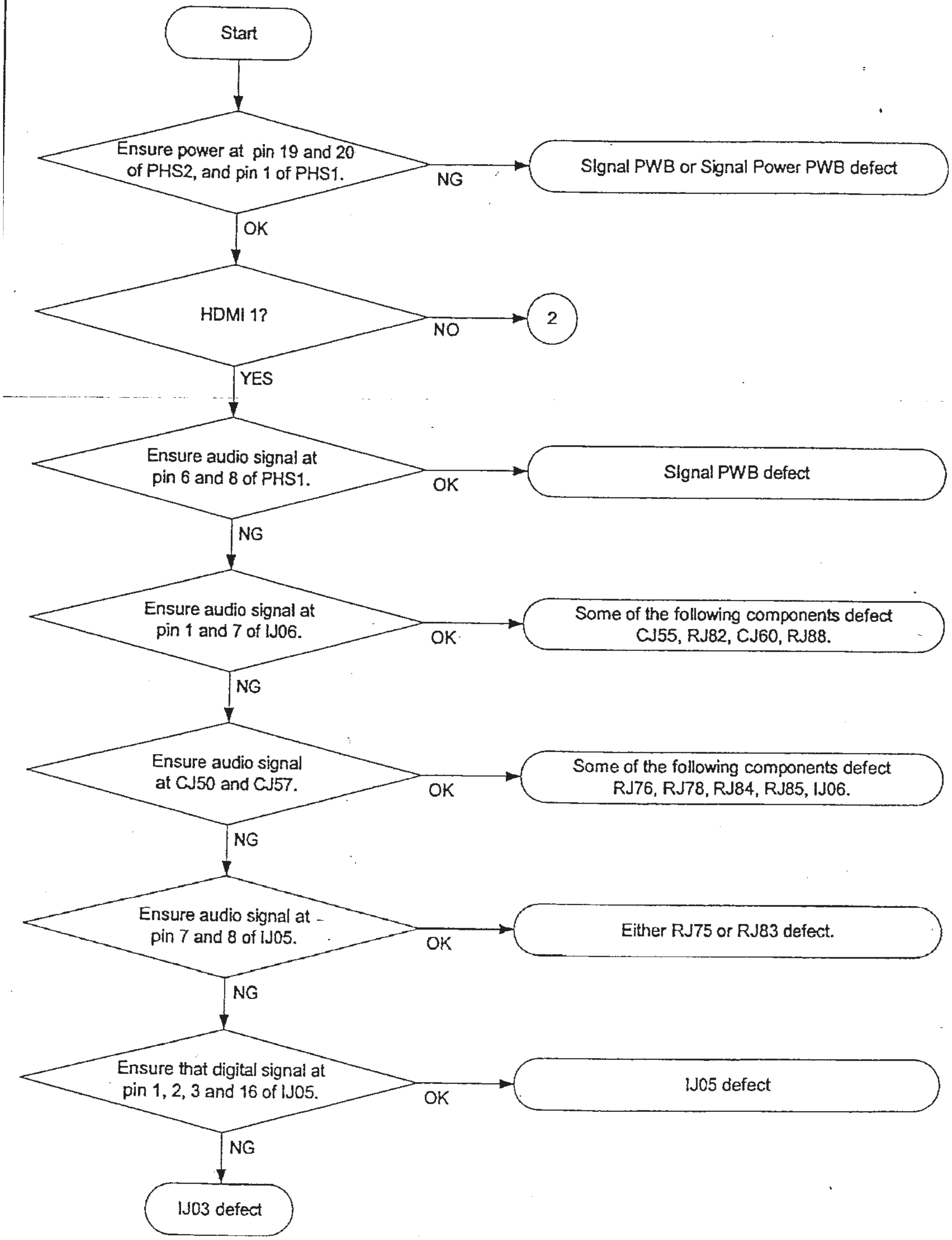
1. No HDMI picture

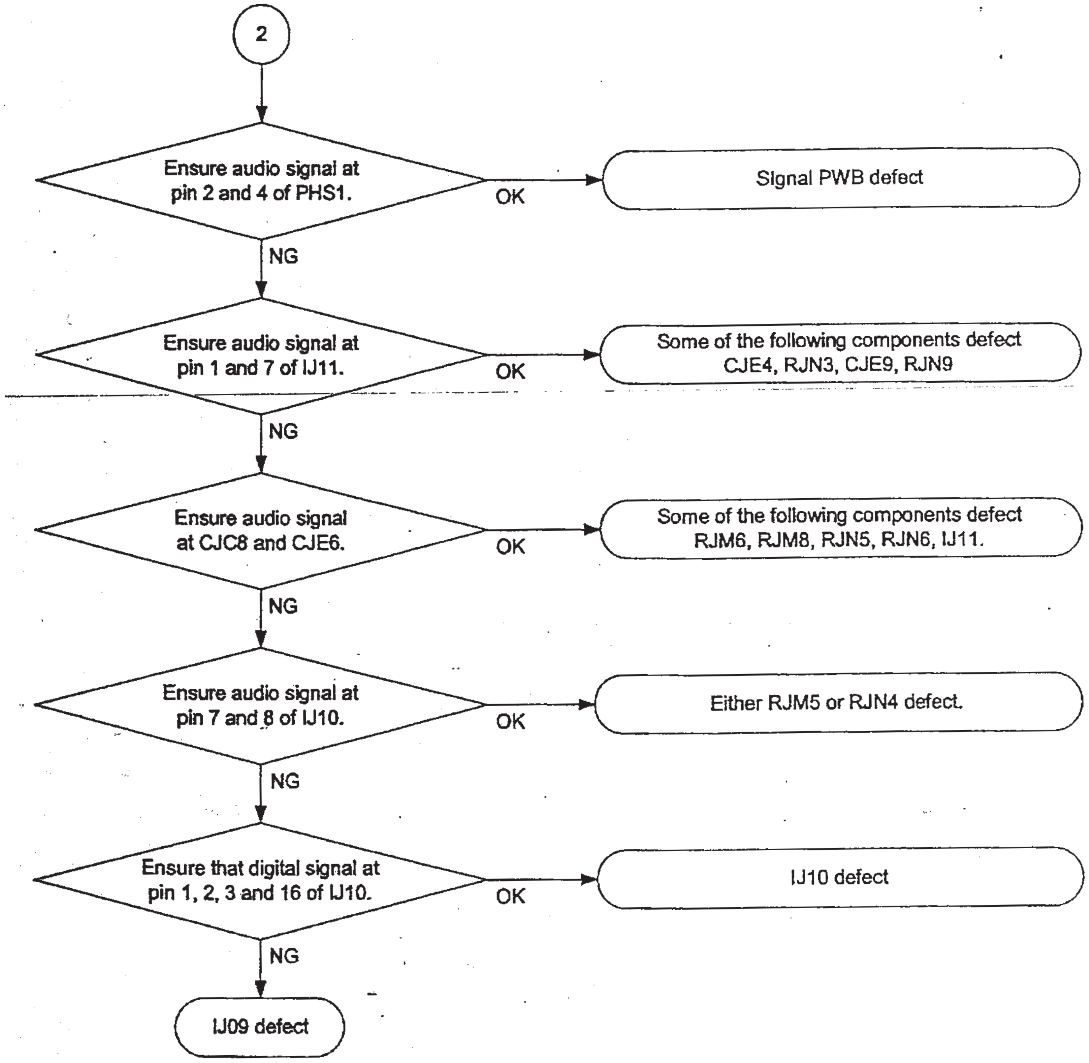

Start
Ensure power at pin 20 and 19 of PHS2.
NG
Signal power PWB or Signal PWB defect
OK
HDMI 1?
NO
1
YES
Ensure Y signal at pin 9 of PHS2.
OK
Signal PWB defect
NG
Ensure Y signal at emitter of QJ10.
OK
RJ93 defect
NG
Ensure Y signal at base of QJ10.
OK
QJ10 defect
NG
Ensure Y signal at input of HJ01.
OK
HJ01 defect
NG
Ensure Y signal at pin 12 of IJ03.
OK
RJ89 defect
NG
IJ03 defect

BACK TO ADJUSTMENTS

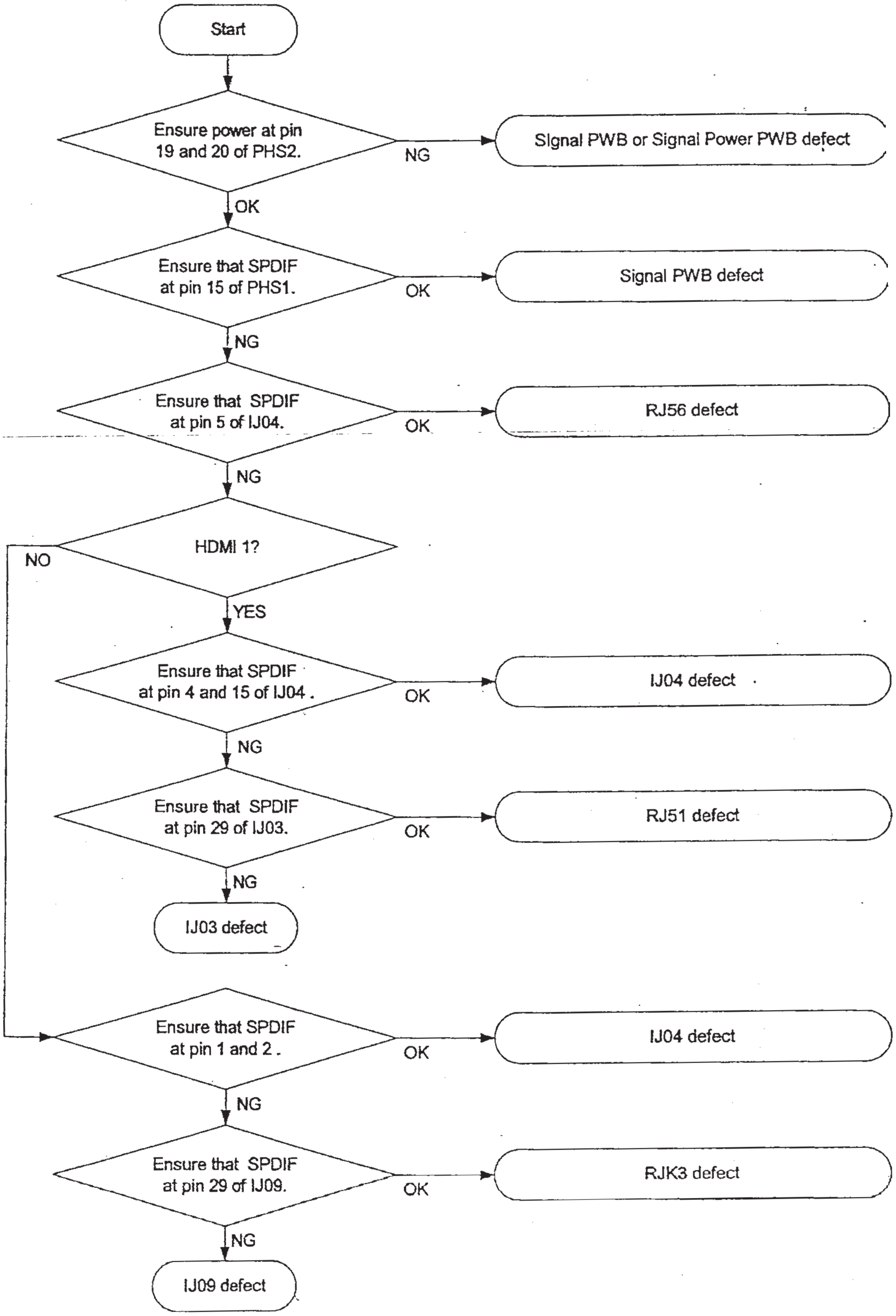

1
Ensure Y signal at pin 4 of PHS2.
OK
Signal PWB defect
NG
Ensure Y signal at emitter of QJ22.
OK
RJP5 defect
NG
Ensure Y signal at base of QJ22.
OK
QJ22 defect
NG
Ensure Y signal at input of HJ04.
OK
HJ04 defect
NG
Ensure Y signal at pin 12 of IJ09
OK
RJP1 defect
NG
IJ09 defect

2. No HDMI analog audio


Start
Ensure power at pin 19 and 20 of PHS2, and pin 1 of PHS1.
NG
Signal PWB or Signal Power PWB defect
OK
HDMI 1?
NO
2
YES
Ensure audio signal at pin 6 and 8 of PHS1.
OK
Signal PWB defect
NG
Ensure audio signal at pin 1 and 7 of IJ06.
OK
Some of the following components defect CJ55, RJ82, CJ60, RJ88.
NG
Ensure audio signal at CJ50 and CJ57.
OK
Some of the following components defect RJ76, RJ78, RJ84, RJ85, IJ06.
NG
Ensure audio signal at pin 7 and 8 of IJ05.
OK
Either RJ75 or RJ83 defect.
NG
Ensure that digital signal at pin 1, 2, 3 and 16 of IJ05.
OK
IJ05 defect
NG
IJ03 defect


2
Ensure audio signal at pin 2 and 4 of PHS1.
OK
Signal PWB defect
NG
Ensure audio signal at pin 1 and 7 of IJ11.
OK
Some of the following components defect CJE4, RJN3, CJE9, RJN9
NG
Ensure audio signal at CJC8 and CJE6.
OK
Some of the following components defect RJM6, RJM8, RJN5, RJN6, IJ11.
NG
Ensure audio signal at pin 7 and 8 of IJ10.
OK
Either RJM5 or RJN4 defect.
NG
Ensure that digital signal at pin 1, 2, 3 and 16 of IJ10.
OK
IJ10 defect
NG
IJ09 defect

3. No HDMI digital audio


Start
Ensure power at pin 19 and 20 of PHS2.
NG
Signal PWB or Signal Power PWB defect
OK
Ensure that SPDIF at pin 15 of PHS1.
OK
Signal PWB defect
NG
Ensure that SPDIF at pin 5 of IJ04.
OK
RJ56 defect
NG
HDMI 1?
NO
YES
Ensure that SPDIF at pin 4 and 15 of IJ04 .
OK
IJ04 defect
NG
Ensure that SPDIF at pin 29 of IJ03.
OK
RJ51 defect
NG
IJ03 defect
Ensure that SPDIF at pin 1 and 2 .
OK
IJ04 defect
NG
Ensure that SPDIF at pin 29 of IJ09.
OK
RJK3 defect
NG
IJ09 defect

DC VOLTAGE
(CONNECTORS)

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PPS1	1	38v or 29v	36	GND
	2	GND	37	3.6
	3	38v or 29v	38	3.6
	4	GND	39	3.6
	5	38v or 29v	40	3.6
	13	5		
	14	GND		
	17	35		
	18	GND		
	21	10.5		
	22	10.5		
	23	GND		
	25	5.7		
	26	GND		
	27	5.7		
	28	5.7		
	29	5.6		
	30	5.6		
	31	GND		
	35	-5.6		

Symbol	Pin No.	V(DC)
PSC4	1	0 - 5
	2	0 - 5
	3	0 - 5
	4	GND
	6	0 - 5
	7	0 - 5
	8	0 - 5
	9	GND
	11	1.4
	12	1.4
	13	1.4
	14	GND
	15	0 - 5
	16	0 - 5
	19	1.4
	20	1.4
	21	1.4
	22	GND
	23	0 - 5
	24	0 - 5

Symbol	Pin No.	V(DC)
PMS1	1	3.6
	2	3.6
	3	3.6
	4	3.6
	5	GND
	8	5.6
	9	5.6
	12	5.6
	13	GND
	37	0.7
	38	GND
	39	0.7
	41	0.7

Symbol	Pin No.	V(DC)
PSC1	1	1.8
	2	1.8
	3	GND
	4	GND
	5	3.3
	6	3.3
	7	3.3
	8	GND
	9	GND

Symbol	Pin No.	V(DC)
PSC2	1	5.5
	2	5.5
	3	GND
	4	GND
	5	5
	6	5
	7	GND

DC VOLTAGE
(CONNECTORS)

Symbol	Pin No.	V(DC)
PSF2	1	9
	2	5
	3	GND
	4	4.5
	5	4.5
	7	5.5
	9	5.5

Symbol	Pin No.	V(DC)
PTU1	3	GND
	4	35
	5	9
	7	5

Symbol	Pin No.	V(DC)
PSF3	1	GND
	2	5

Symbol	Pin No.	V(DC)
PHS1	1	9
	3	GND

Symbol	Pin No.	V(DC)
PSF1	5	GND
	7	5
	13	GND

Symbol	Pin No.	V(DC)
PHS2	10	GND
	19	5
	20	3.3

Symbol	Pin No.	V(DC)
PJIG	1	5
	3	GND

Symbol	Pin No.	V(DC)
P7KD	21	15.5
	32	15.5

Symbol	Pin No.	V(DC)
PSD	3	GND
	12	3.3

Symbol	Pin No.	V(DC)
PDJ	1	3.3
	4	GND

Symbol	Pin No.	V(DC)
PSF2	1	9
	2	5
	3	GND

Symbol	Pin No.	V(DC)
PDP	1	GND
	5	3.3

DC VOLTAGE
(CONNECTORS)

Symbol	Pin No.	V(DC)
PSP	3	GND
	12	3.3

Symbol	Pin No.	V(DC)
PFS	5	GND
	7	5

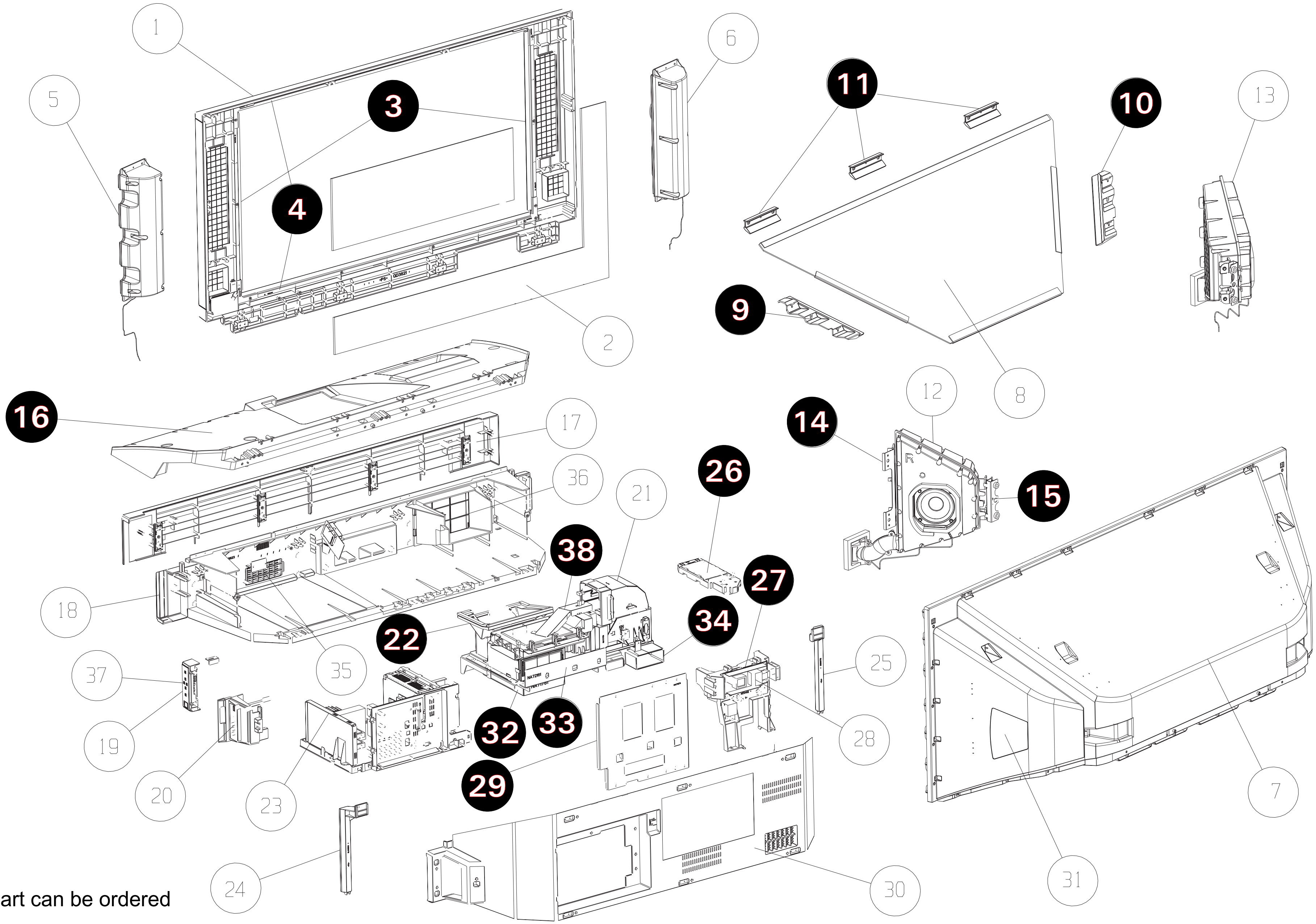
Symbol	Pin No.	V(DC)
PPDE	1	4v (+)
	3	(-)

Symbol	Pin No.	V(DC)
PJO1	11	GND
	12	5

Symbol	Pin No.	V(DC)
PPL	1	09 v (+)
	3	(-)

Symbol	Pin No.	V(DC)
P7FD	21	15.5
	32	15.5

42V710 / 42V715
EXPLODED VIEW


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38

Ⓧ part can be ordered

● part can not be ordered

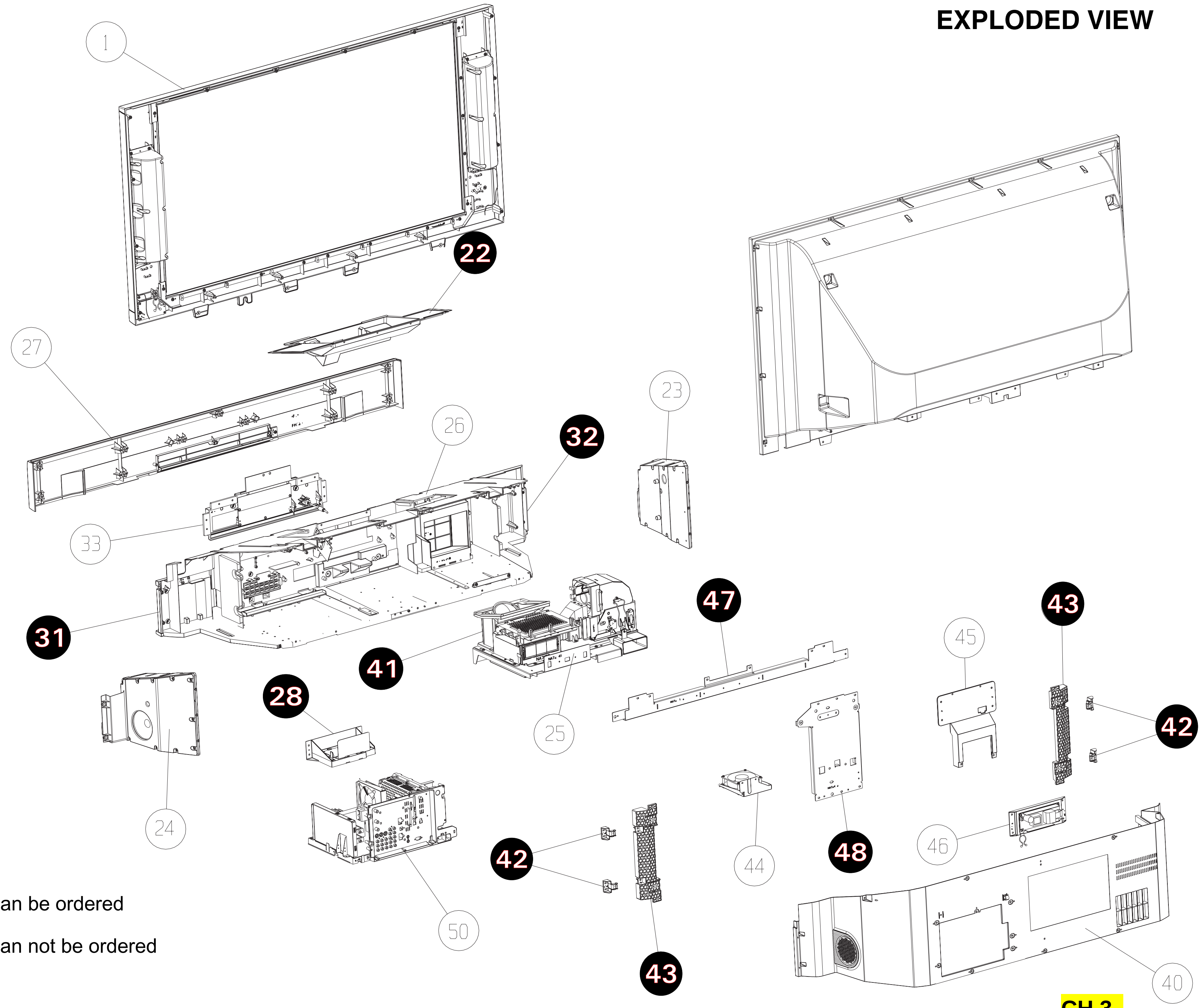
CH 3

EXPLODED VIEW PARTS LIST

Drawing No.	Description	Part No. 42V710	Part No. 42V715	Service Part*
1	SCREEN FRAME	NT04341	NT04343	YES
2	SCREEN ASSEMBLY	KR03232		YES
3	SCREEN BRACKET, METAL, VERT	NA71651		NO
4	SCREEN BRACKET, METAL, HORIZ	NA71661		NO
5	MAIN SPEAKER, RIGHT SIDE	GM01491		YES
6	MAIN SPEAKER, LEFT SIDE	GM01481		YES
7	REAR COVER, UPPER	QD38221		YES
8	MIRROR, GLASS, 42:	KS07892		YES
9	MIRROR BRACKET, RIGHT	NJ09581		NO
10	MIRROR BRACKET, LEFT	NJ09582		NO
11	MIRROR BRACKET, UPPER	NJ09621		NO
12	SUB WOOFER, RIGHT SIDE	GM01471		YES
13	SUB WOOFER, LEFT SIDE	GM01461		YES
14	SUB WOOFER BRACKET, FRONT	NA72341		NO
15	SUB WOOFER BRACKET, REAR	NA72351		NO
16	BARRIER COVER	ME03711		NO
17	FRONT COVER	PH34373	PH34374	YES
18	LOWER CABINET	QD38233		YES
19	SIDE CONTROL HOLDER	PH34421		YES
20	SIDE TERMINAL HOLDER	PH34431		YES
21	OPTICAL ENGINE ASSEMBLY	see page 240		YES
22	LENS BARRIER	ME03762		NO
23	CHASSIS ASSEMBLY	see page 240		YES
24	CABINET SUPPORT BRACKET, RIGHT	NJ09601		YES
25	CABINET SUPPORT BRACKET, LEFT	NJ09602		YES
26	POWER SUB HOLDER	NT04371		NO
27	LAMP POWER UNIT HOLDER	NT04121		NO
28	LAMP POWER UNIT, (BALLAST)	see page 240		YES
29	CABINET BRACKET, REAR	NA71571		NO
30	REAR COVER, LOWER	QD38241		YES
31	SP HOLE PLATE	PH34721		YES
32	CONT B FIX MTL	NA71581		NO
33	ENGINE BASE PLATE	NA72161		NO
34	LAMP COOLING DUCT	NJ08351		NO
35	LOWER CABINET COVER	PH34601		YES
36	LAMP COVER	PH34283		YES
37	CONTROL BUTTONS	PC06161		YES
38	ENGINE COOLING DUCT	NX30093		NO

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

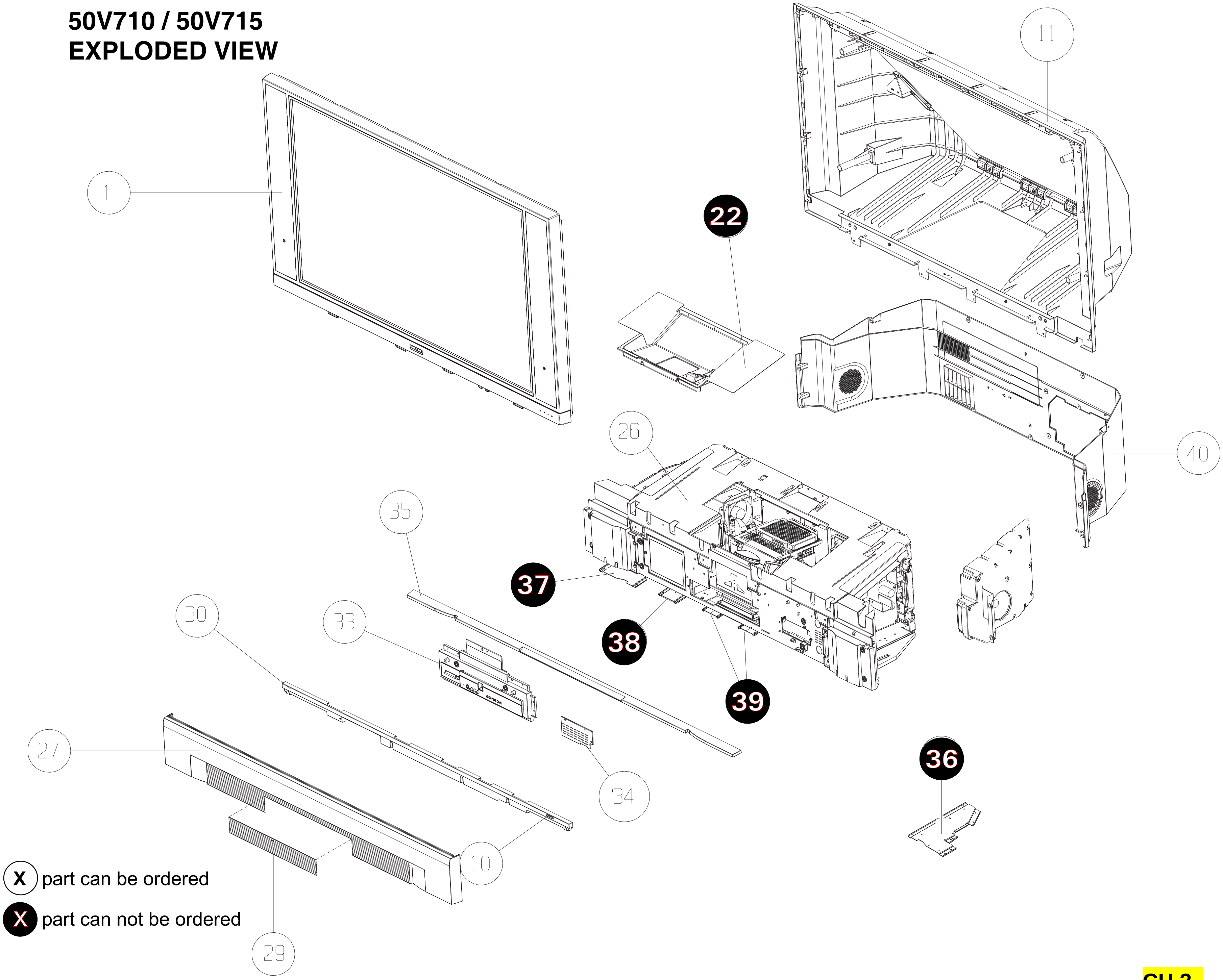
50V710 / 50V715
EXPLODED VIEW


1
22
27
23
26
32
33
31
41
47
43
45
42
28
25
24
50
42
43
44
48
46
40

Ⓧ part can be ordered

🅧 part can not be ordered

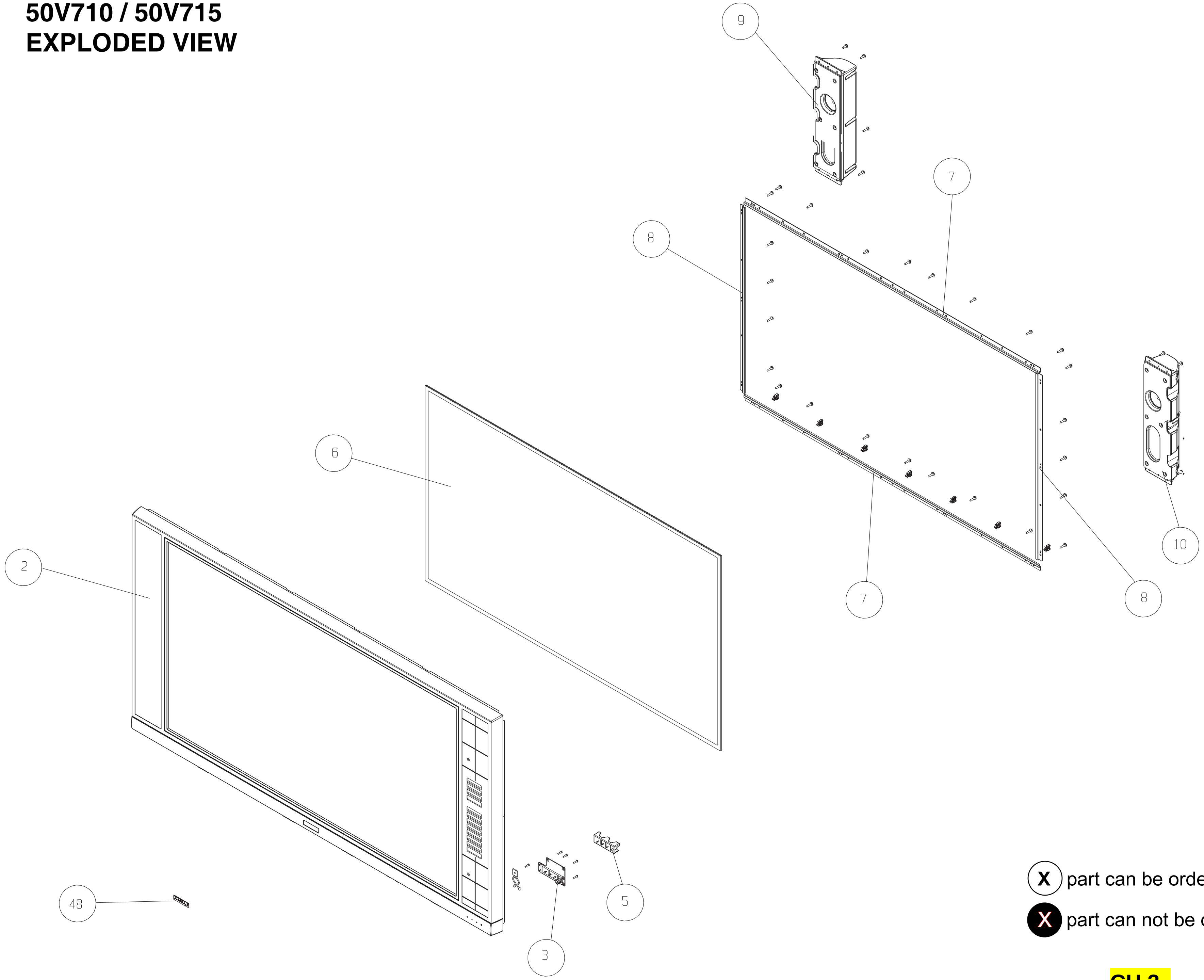
50V710 / 50V715
EXPLODED VIEW


11
1
22
26
40
35
37
38
39
30
33
27
34
36
10
29

ⓧ part can be ordered

🅧 part can not be ordered

50V710 / 50V715
EXPLODED VIEW

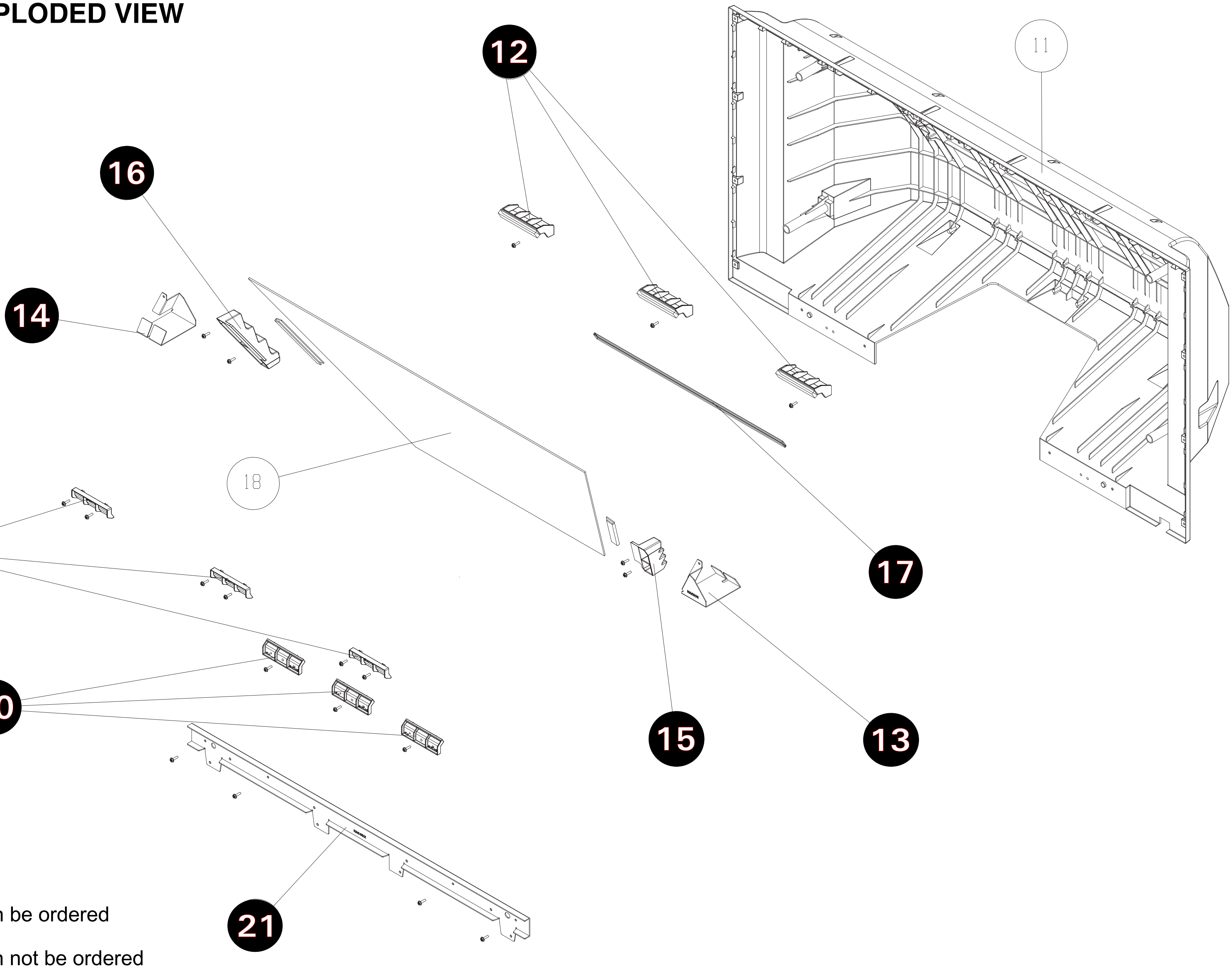

9
7
8
6
10
2
7
8
48
5
3

Ⓧ part can be ordered

● part can not be ordered

CH 3

50V710 / 50V715
EXPLODED VIEW



12
11
16
14
18
19
17
20
15
13
21

Ⓧ part can be ordered

● X part can not be ordered

EXPLODED VIEW PARTS LIST				
Drawing No.	Description	Part No. 50V710	Part No. 50V715	Service Part*
1	SCREEN FRAME	NT04351	NT04353	YES
2	NOT USED	N/A		
3	CONTROL PWB	see page 240		YES
4	LED LENS	KQ03291		YES
5	SCREEN ASSEMBLY	KR03234		YES
6	SCREEN BRACKET, METAL, HORIZ	NA66781		YES
7	SCREEN BRACKET, METAL, VERT	NA66791		YES
8	MAIN SPEAKER, LEFT SIDE	GM01381		YES
9	MAIN SPEAKER, RIGHT SIDE	GM01391		YES
10	POWER BUTTON	PC05731		YES
11	REAR COVER, UPPER	QD36143		YES
12	MIRROR BRACKET, LOWER	NJ07811		NO
13	MIRROR BRACKET, RIGHT	NA69011		NO
14	MIRROR BRACKET, LEFT	NA69012		NO
15	MIRROR BRACKET, INSIDE RIGHT	NJ07824		NO
16	MIRROR BRACKET, INSIDE LEFT	NJ07823		NO
17	MIRROR SPACER	MN06153		NO
18	MIRROR, GLASS, 50"	KS06583		YES
19	MIRROR BRACKET, LOWER	NJ07801		NO
20	MIRROR BRACKET, LOWER	NJ07831		NO
21	MIRROR BRACKET, LOWER	NA64502		NO
22	INSERT, ENGINE ORIFICE	ME03881		NO
23	SUB WOOFER, LEFT SIDE	GM01411		YES
24	SUB WOOFER, RIGHT SIDE	GM01401		YES
25	OPTICAL ENGINE ASSEMBLY	see page 240		YES
26	LOWER CABINET	QD38972		YES
27	FRONT COVER, LOWER	PH32986	PH32989	YES
28	FAN MOUNT BRACKET	NA73821		NO
29	CONTROL DOOR	PH33177	PH35701	YES
30	FRONT TRIM	PH33042		YES
31	LOWER CABINET, RIGHT SIDE	NJ07851		NO
32	LOWER CABINET, LEFT SIDE	NJ07852		NO
33	CONTROL PANEL	PH33167		YES
34	LOWER CABINET, FRONT, COVER	PH33441		YES
35	BOTTOM RAIL	PH32971	PH32974	YES
36	BRACKET, BOTTOM, RIGHT	NA66731		NO
37	BRACKET, BOTTOM, LEFT	NA66732		NO

*Service Parts can be ordered from the Parts department. If the item is not a Service Part, (even though there is a part number), it's not possible to order from the Parts department.

(continued) EXPLODED VIEW PARTS LIST

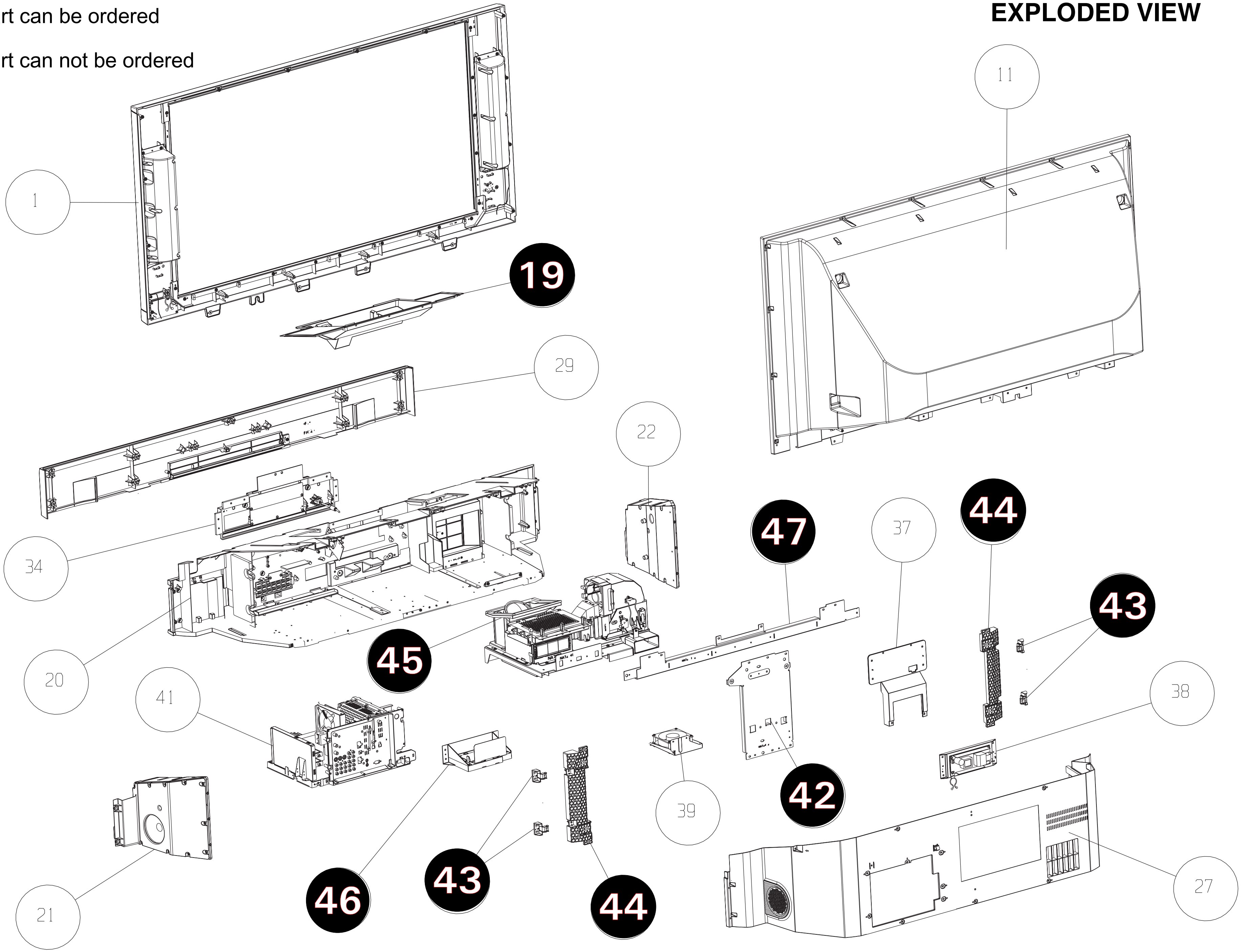
Drawing No.	Description	Part No. 50V710	Part No. 50V715	Service Part*
38	BRACKET, BOTTOM, RAIL, RIGHT	NA66741		NO
39	BRACKET, BOTTOM, RAIL, LEFT	NA64181		NO
40	**REAR COVER, LOWER**	**QD36554**		**YES**
41	LENS BARRIER	ME03871		NO
42	CABINET BRACKET	NJ08271		NO
43	CABINET BRACKET, POST	NJ08263		NO
44	**FAN, COOLING**	**GS01131**		**YES**
45	**LAMP DUCT**	**NJ08172**		**YES**
46	**LAMP POWER UNIT (BALLAST)**	**see page 240**		**YES**
47	LOWER CABINET, BOTTOM BRACKET	NA72832		NO
48	CABINET BRACKET, REAR	NA72482		NO
49	**ULTRAVISION BADGE**	**PU00801**		**YES**
50	**LC47 CHASSIS ASSEMBLY**	**see page 240**		**YES**

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

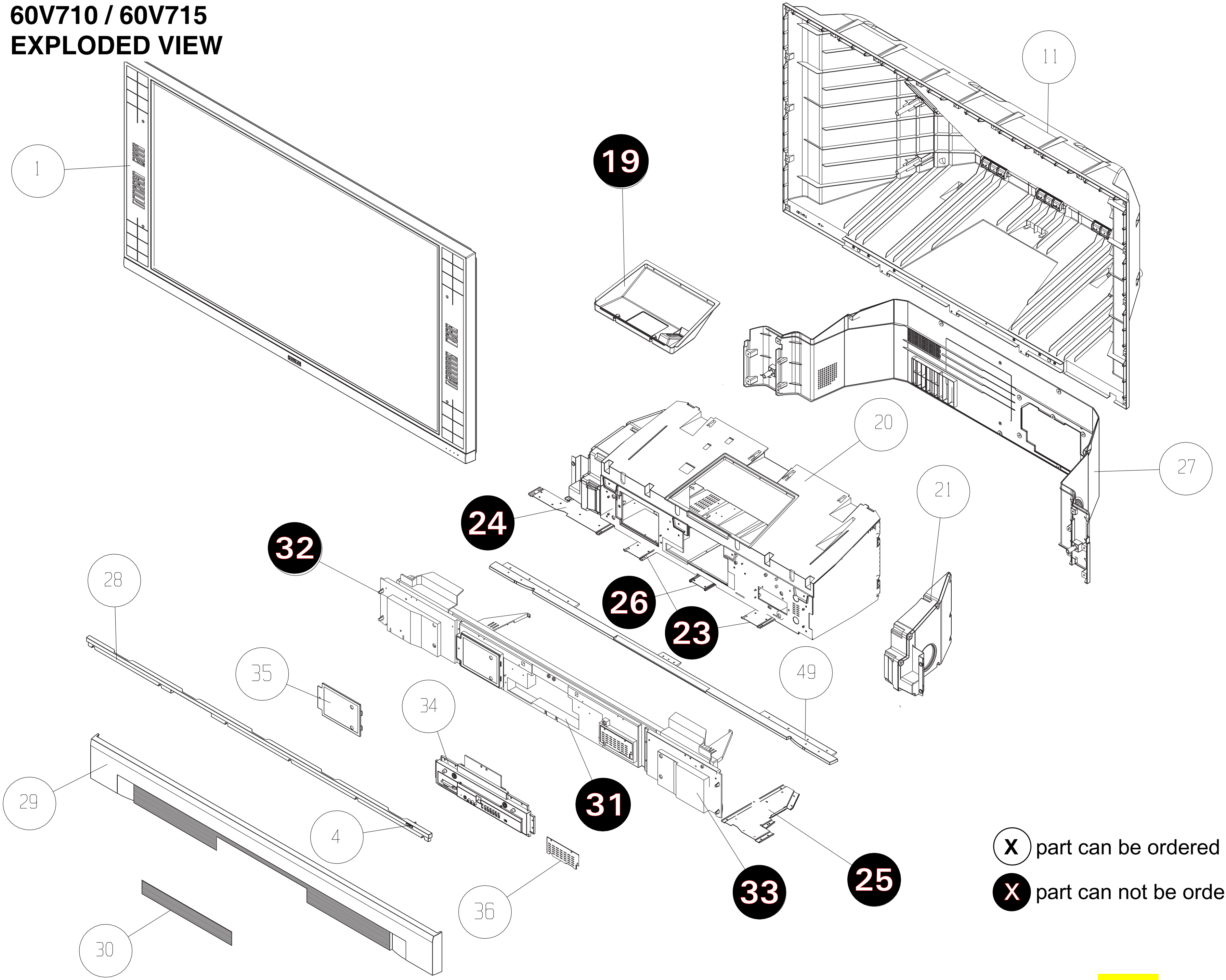
60V710 / 60V715
EXPLODED VIEW

ⓧ part can be ordered

🅧 part can not be ordered


1
11
19
29
22
34
47
37
44
43
20
45
38
41
42
39
21
46
43
44
27

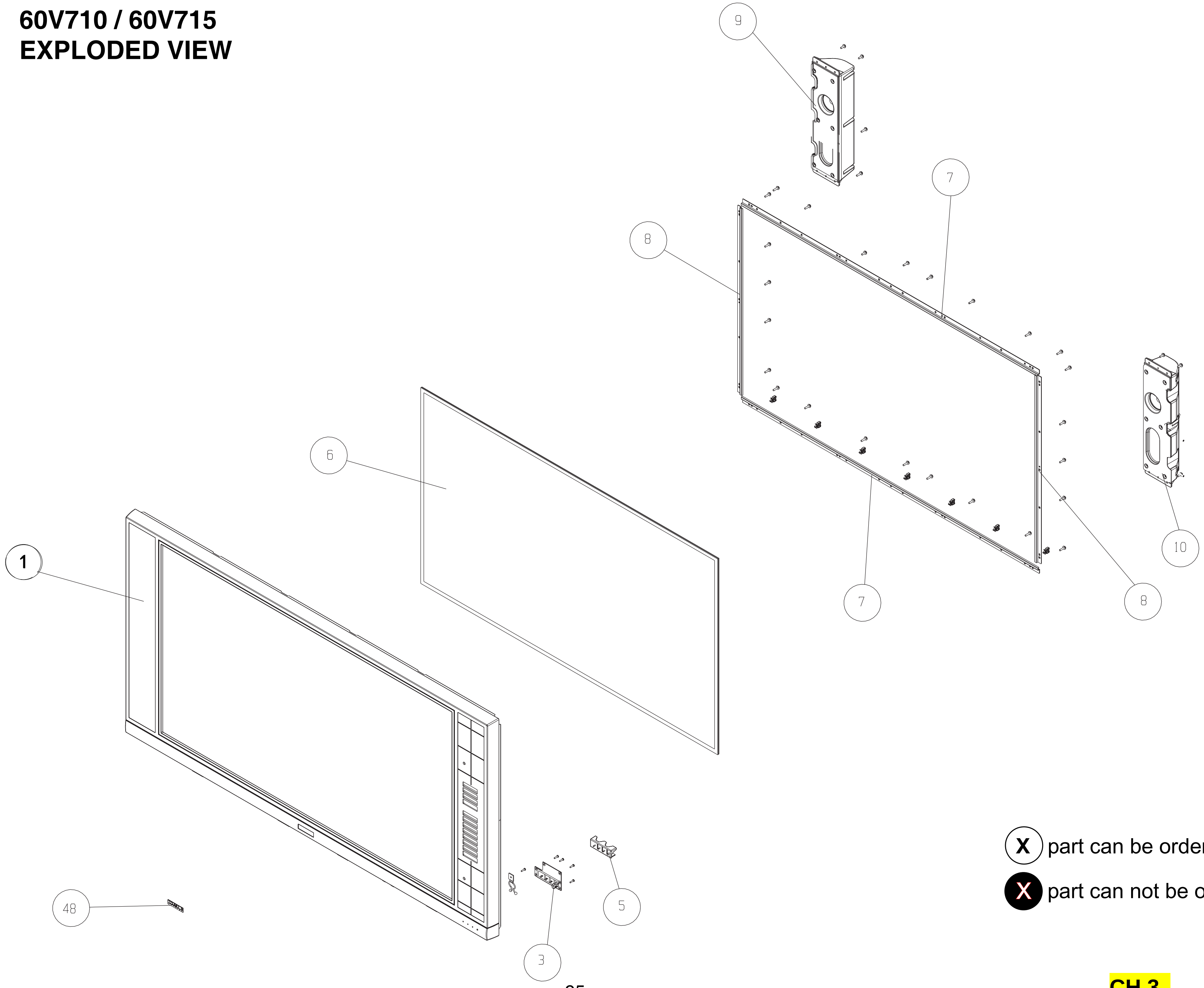
60V710 / 60V715
EXPLODED VIEW


11
19
1
20
27
24
21
32
28
26
23
49
35
34
29
31
4
33
25
36
30

Ⓧ part can be ordered

● X part can not be ordered

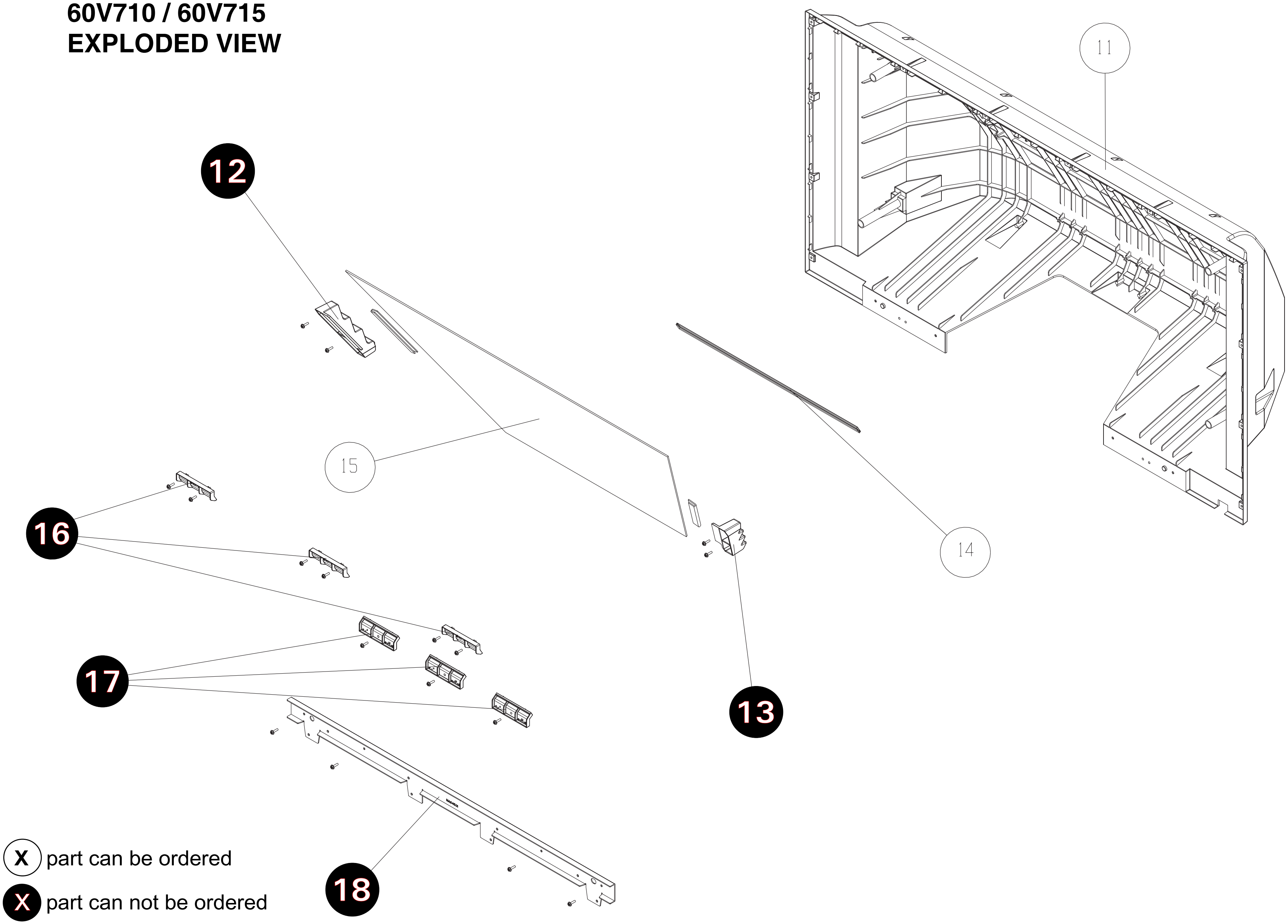
60V710 / 60V715
EXPLODED VIEW


9
7
8
6
1
10
7
8
48
5
3

X part can be ordered

X part can not be ordered

60V710 / 60V715
EXPLODED VIEW


11
12
15
16
17
13
14
18

Ⓧ part can be ordered

🅧 part can not be ordered

EXPLODED VIEW PARTS LIST

Drawing No.	Description	Part No. 60V710	Part No. 60V715	Service Part*
1	**SCREEN FRAME**	**NT04352**	**NT04354**	**YES**
2	NOT USED	N/A		
3	**CONTROL PWB**	see page 240		**YES**
4	**POWER BUTTON**	**PC05731**		**YES**
5	**LED LENS**	**KQ03291**		**YES**
6	**SCREEN ASSEMBLY**	**KR03235**		**YES**
7	**SCREEN BRACKET, METAL, HORIZ**	**NA66782**		**YES**
8	**SCREEN BRACKET, METAL, VERT**	**NA66792**		**YES**
9	**MAIN SPEAKER, LEFT SIDE**	**GM01381**		**YES**
10	**MAIN SPEAKER, RIGHT SIDE**	**GM01391**		**YES**
11	**REAR COVER, UPPER**	**QD36521**		**YES**
12	MIRROR BRACKET, LOWER	NJ07824		NO
13	MIRROR BRACKET, RIGHT	NJ07823		NO
14	**MIRROR SPACER, LOWER**	**MN06153**		**YES**
15	**MIRROR, GLASS, 60"**	**KS06584**		**YES**
16	MIRROR BRACKET, LOWER	NJ07831		NO
17	MIRROR BRACKET, LOWER	NJ07811		NO
18	BACK COVER BOTTOM METAL	NA67802		NO
19	INSERT, ENGINE ORIFICE	ME03881		NO
20	**LOWER CABINET**	**QD38972**		**YES**
21	**SUB WOOFER, LEFT SIDE**	**GM01411**		**YES**
22	**SUB WOOFER, RIGHT SIDE**	**GM01401**		**YES**
23	BOTTOM RAIL BRACKET, CENTER	NA68501		NO
24	BOTTOM SIDE BRACKET, LEFT	NA68511		NO
25	BOTTOM SIDE BRACKET, RIGHT	NA68512		NO
26	BOTTOM RAIL BRACKET, CENTER	NA64191		NO
27	**FRONT COVER, LOWER**	**PH36532**		**YES**
28	**FRONT TRIM**	**PH33311**		**YES**
29	**FRONT COVER**	**PH35731**	**PH35733**	**YES**
30	**CONTROL DOOR**	**PH33177**	**PH33701**	**YES**
31	FRONT SPACER	PH33552		NO
32	LOWER CABINET, LEFT SIDE	NJ08001		NO
33	LOWER CABINET, RIGHT SIDE	NJ08002		NO
34	**CONTROL PANEL**	**PH33168**		**YES**
35	**LAMP COVER**	**PH33032**		**YES**
36	**LOWER CABINET COVER**	**PH33442**		**YES**
37	**LAMP DUCT A**	**NJ08172**		**YES**

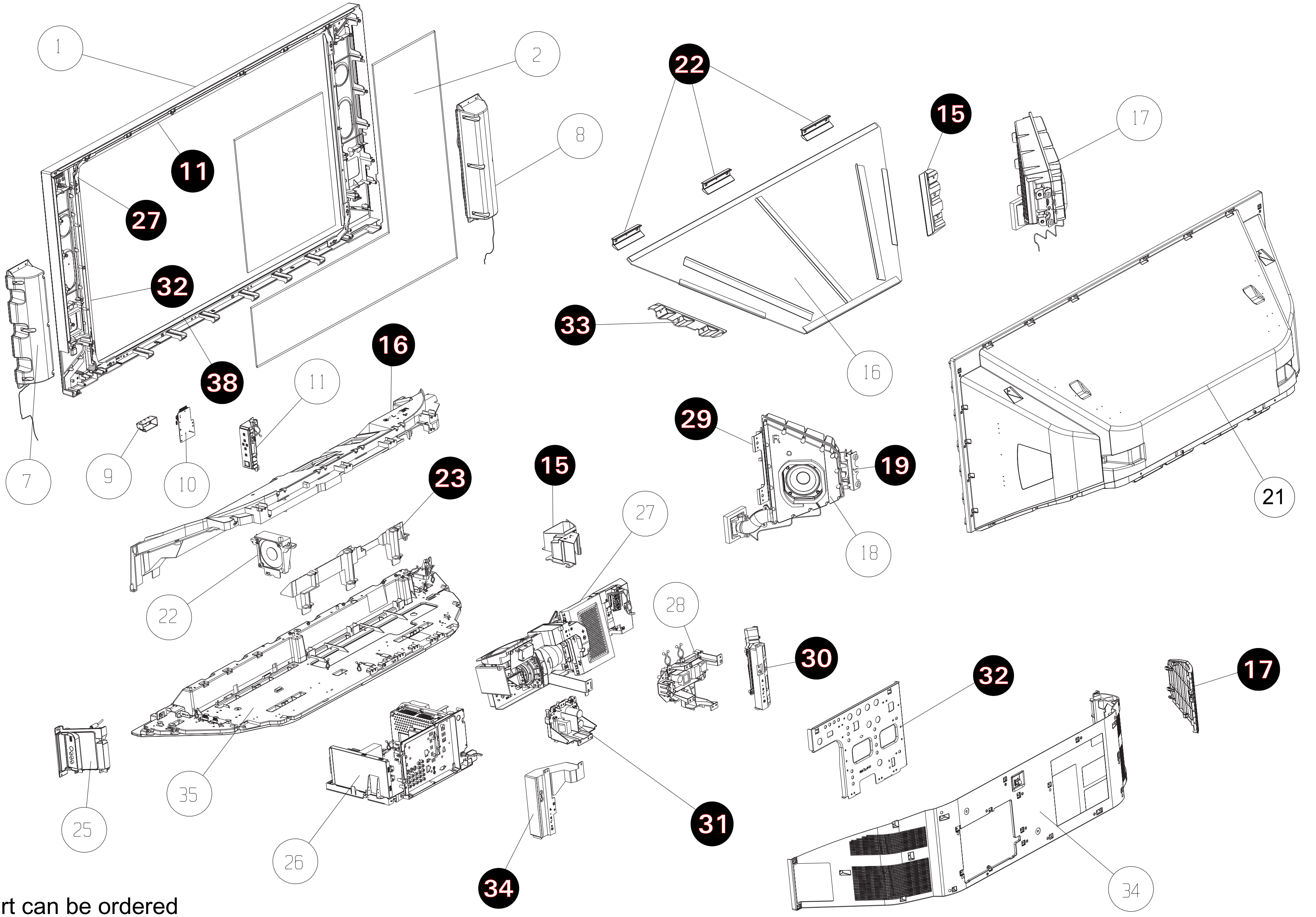
*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

(continued) EXPLODED VIEW PARTS LIST

Drawing No.	Description	Part No. 50V710	Part No. 50V715	Service Part*
38	**LAMP POWER UNIT (BALLAST)**	see page 240		**YES**
39	**FAN, COOLING**	**GS01131**		**YES**
40	**OPTICAL ENGINE ASSEMBLY**	see page 240		**YES**
41	**LC47 CHASSIS ASSEMBLY**	see page 240		**YES**
42	CABINET BRACKET	NA72482		NO
43	CABINET BRACKET	NJ08271		NO
44	CABINET BRACKET	NJ08263		NO
45	LENS BARRIER	ME03871		NO
46	FAN BRACKET	NA73821		NO
47	LOWER CABINET, BOTTOM BRACKET	NA72832		NO
48	**ULTRAVISION BADGE**	**PU00801**	**PU00802**	**YES**
49	**BOTTOM RAIL**	**PH33291**	**PH33294**	**YES**

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

50VS810 / 60VS810
EXPLODED VIEW


1
2
8
11
27
32
38
7
9
10
11
16
23
22
35
25
26
15
27
34
31
22
15
17
33
16
29
19
18
21
28
30
32
17
34

Ⓧ part can be ordered

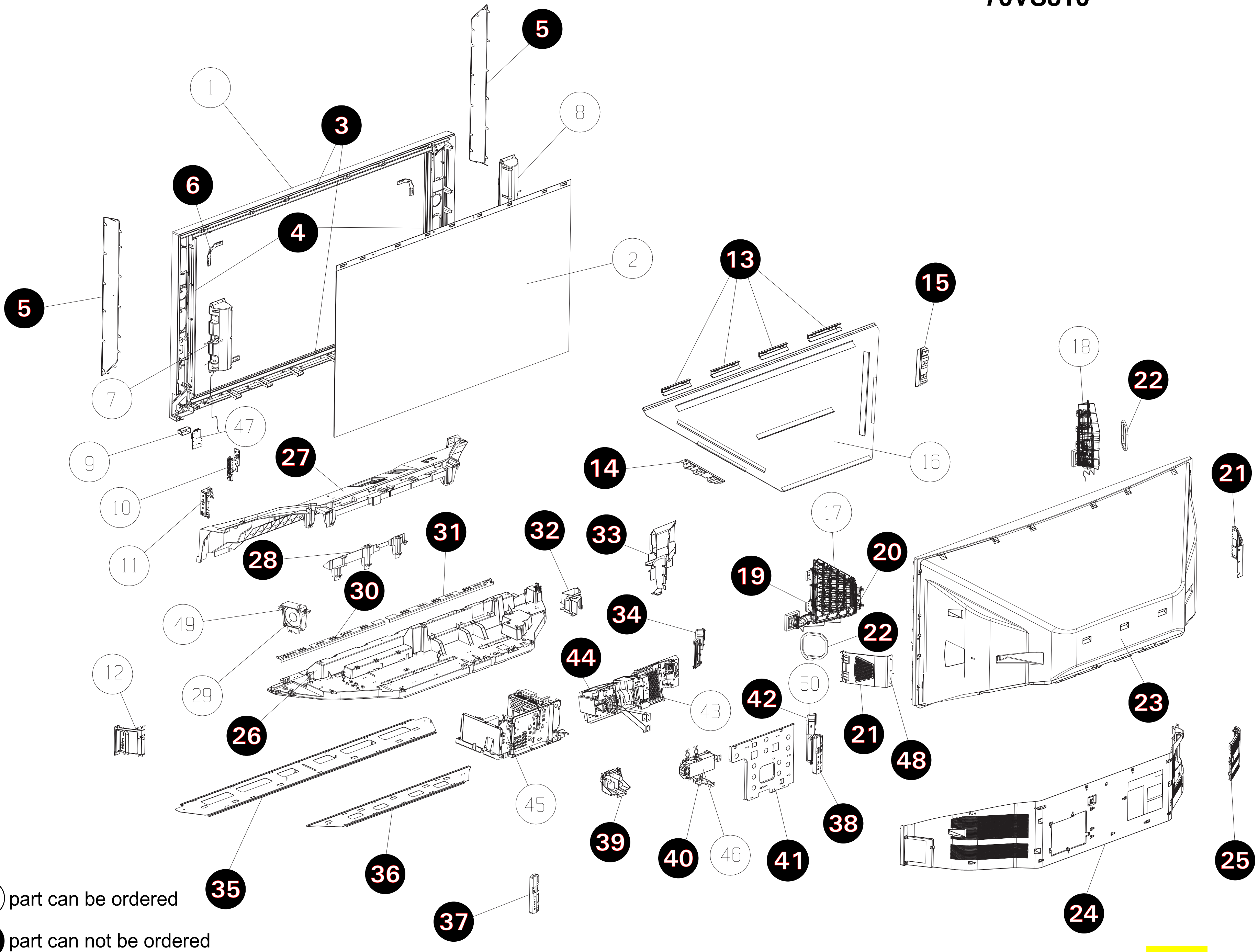
🅧 part can not be ordered

EXPLODED VIEW PARTS LIST

Drawing No.	Description	Part No. 50VS810	Part No. 60VS810	Service Part*
1	**SCREEN FRAME ASSEMBLY**	**NT04401**	**NT04475**	**YES**
2	**SCREEN ASSEMBLY**	**KR03244**	**KR03241**	**YES**
3	SCREEN BRACKET, TOP	NA72301	NA72302	NO
4	CORNER, METAL	NA72291		NO
5	SCREEN BRACKET, SIDE	NA72321	NA72322	NO
6	SCREEN BRACKET, BOTTOM	NA72311	NA72312	NO
7	**MAIN SPEAKER, RIGHT SIDE**	**GM01481**		**YES**
8	**MAIN SPEAKER, LEFT SIDE**	**GM01491**		**YES**
9	**LED LAMP, LENS**	**KQ03901**		**YES**
10	**CONTROL PWB**	**see page 240**		**YES**
11	**CONTROL BUTTON**	**PC06165**		**YES**
12	BARRIER BOARD	ME03701	ME03782	NO
13	MIRROR BRACKET, RIGHT	NJ20051		NO
14	MIRROR BRACKET, TOP	NJ20041		NO
15	MIRROR BRACKET, LEFT	NJ20052		NO
16	**MIRROR, GLASS**	**KS08434**	**KS08435**	**YES**
17	**SUB WOOFER, LEFT SIDE**	**GM01471**		**YES**
18	**SUB WOOFER, RIGHT SIDE**	**GM01461**		**YES**
19	SUB WOOFER BRACKET, REAR	NA72351		NO
20	SUB WOOFER BRACKET, FRONT	NA72341		NO
21	**REAR COVER, UPPER**	**QD38182**	**QD38462**	**YES**
22	**FAN**	**GS01131**		**YES**
23	SUPPORT BRACKET	NJ09721		NO
24	EXHAUST DUCT	NJ09851		NO
25	**TERMINAL BOARD COVER**	**PH34251**		**YES**
26	**CHASSIS ASSEMBLY**	**see page 240**		**YES**
27	**OPTICAL ENGINE ASSEMBLY**	**see page 240**		**YES**
28	**LAMP POWER UNIT (BALLAST)**	**see page 240**		**YES**
29	BARRIER SUPPORT, RIGHT	NJ20111	NJ20241	NO
30	BARRIER SUPPORT, LEFT	NJ20101	NJ20231	NO
31	POWER PWB HOLDER	NT04482		NO
32	BACK BONE, METAL	NA72441		NO
33	**LAMP DOOR**	**PH34263**	**PH34961**	**YES**
34	**LOWER CABINET, REAR, COVER**	**QD38201**	**QD38481**	**YES**
35	**LOWER CABINET**	**QD38191**	**QD38491**	**YES**

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

EXPLODED VIEW
70VS810



5
1
3
8
6
4
2
5
13
15
18
22
7
47
9
27
14
16
21
10
17
20
11
28
31
32
33
19
30
34
22
49
23
44
12
29
43
42
50
21
48
26
45
38
39
40
46
41
25
35
36
24
37

Ⓧ part can be ordered

🅧 part can not be ordered

EXPLODED VIEW PARTS LIST

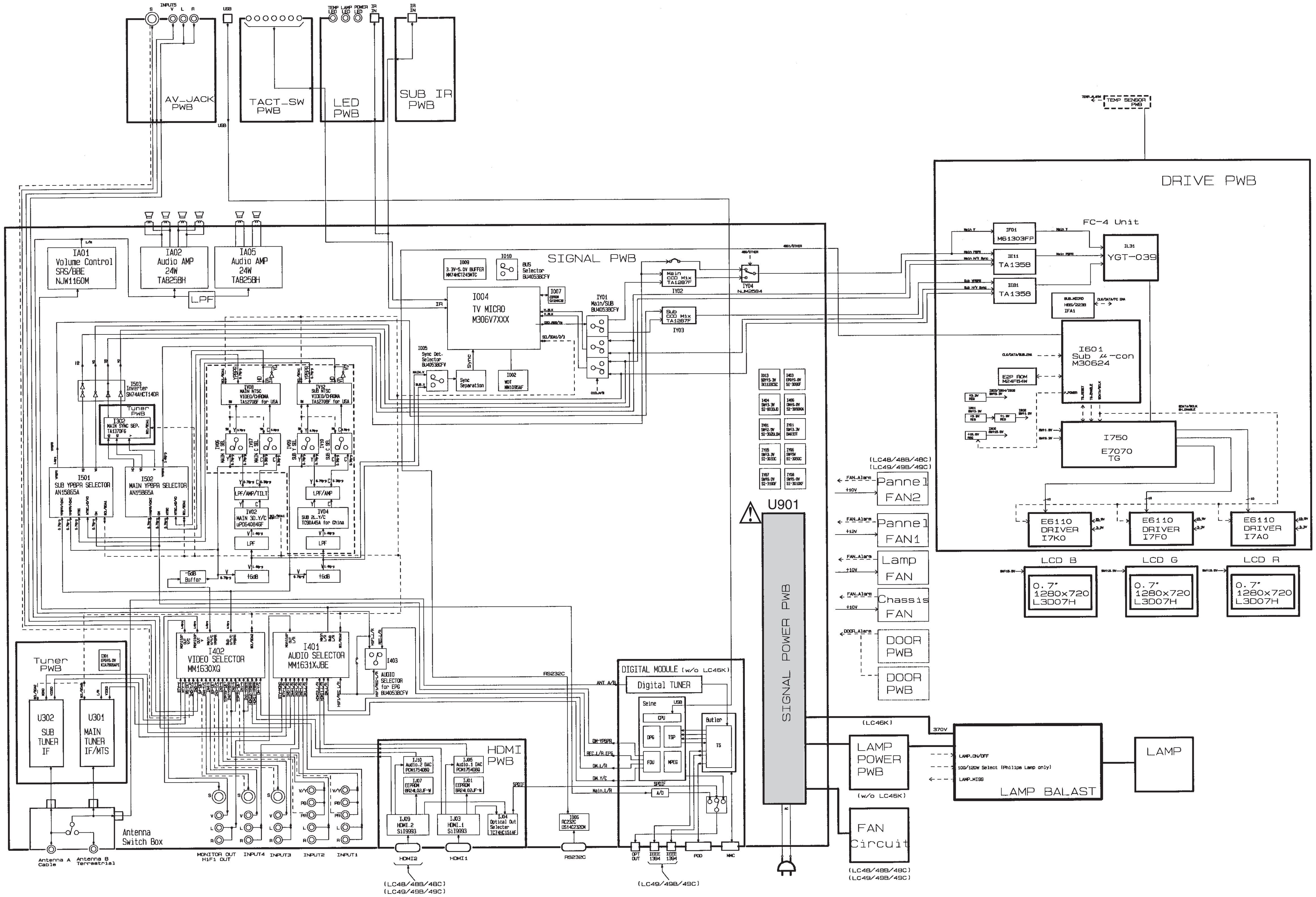
Drawing No.	Description	Part No. 70VS810	Service Part*
1	**SCREEN FRAME ASSEMBLY** (includes UltraShield)	**NT04711**	**YES**
2	**SCREEN ASSEMBLY**	**KR03246**	**YES**
3	SCREEN BRACKET, TOP	NA73991	NO
4	SCREEN BRACKET, SIDE	NA74001	NO
5	SPEAKER NET, SIDE	PM29011	NO
6	CORNER, METAL	NA72291	NO
7	**MAIN SPEAKER, RIGHT SIDE**	**GM01481**	**YES**
8	**MAIN SPEAKER, LEFT SIDE**	**GM01491**	**YES**
9	**LED LAMP, LENS**	**KQ03901**	**YES**
10	**CONTROL BUTTON**	**PC06165**	**YES**
11	**SIDE PANEL**	**PH34245**	**YES**
12	**TERMINAL BOARD COVER**	**PH34251**	**YES**
13	MIRROR BRACKET, TOP	NJ21011	NO
14	MIRROR BRACKET, RIGHT	NJ20051	NO
15	MIRROR BRACKET, LEFT	NJ20052	NO
16	**MIRROR, GLASS**	**KS08436**	**YES**
17	**SUB WOOFER, LEFT SIDE**	**GM01471**	**YES**
18	**SUB WOOFER, RIGHT SIDE**	**GM01461**	**YES**
19	SUB WOOFER BRACKET, FRONT	NA72341	NO
20	SUB WOOFER BRACKET, REAR	NA72351	NO
21	WOOFER HOLE PLATE	PH35581	NO
22	SPONGE PROTECTOR	MU03081	NO
23	REAR COVER, UPPER	QD39351	NO
24	REAR COVER, LOWER	QD39371	NO
25	LAMP DOOR	PH35571	NO
26	LOWER CABINET	QD39361	NO
27	BARRIER BOARD	ME03951	NO
28	ENZ SUPP HOLDER	NJ09721	NO
29	**FAN**	**GS01131**	**YES**
30	FRAME BRACKET, RIGHT	NA74021	NO
31	FRAME BRACKET, LEFT	NA74022	NO
32	EXHAUST DUCT	NJ09851	NO
33	LAMP GUIDE	NJ21001	NO
34	LAMP FAN HOLDER	NJ20961	NO
35	LOWER CABINET BRACKET, FRONT	NA74031	NO
36	LOWER CABINET BRACKET, REAR	NA74041	NO
37	BARRIER BOARD, SUPPORT BRACKET, LEFT	NJ20101	NO

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

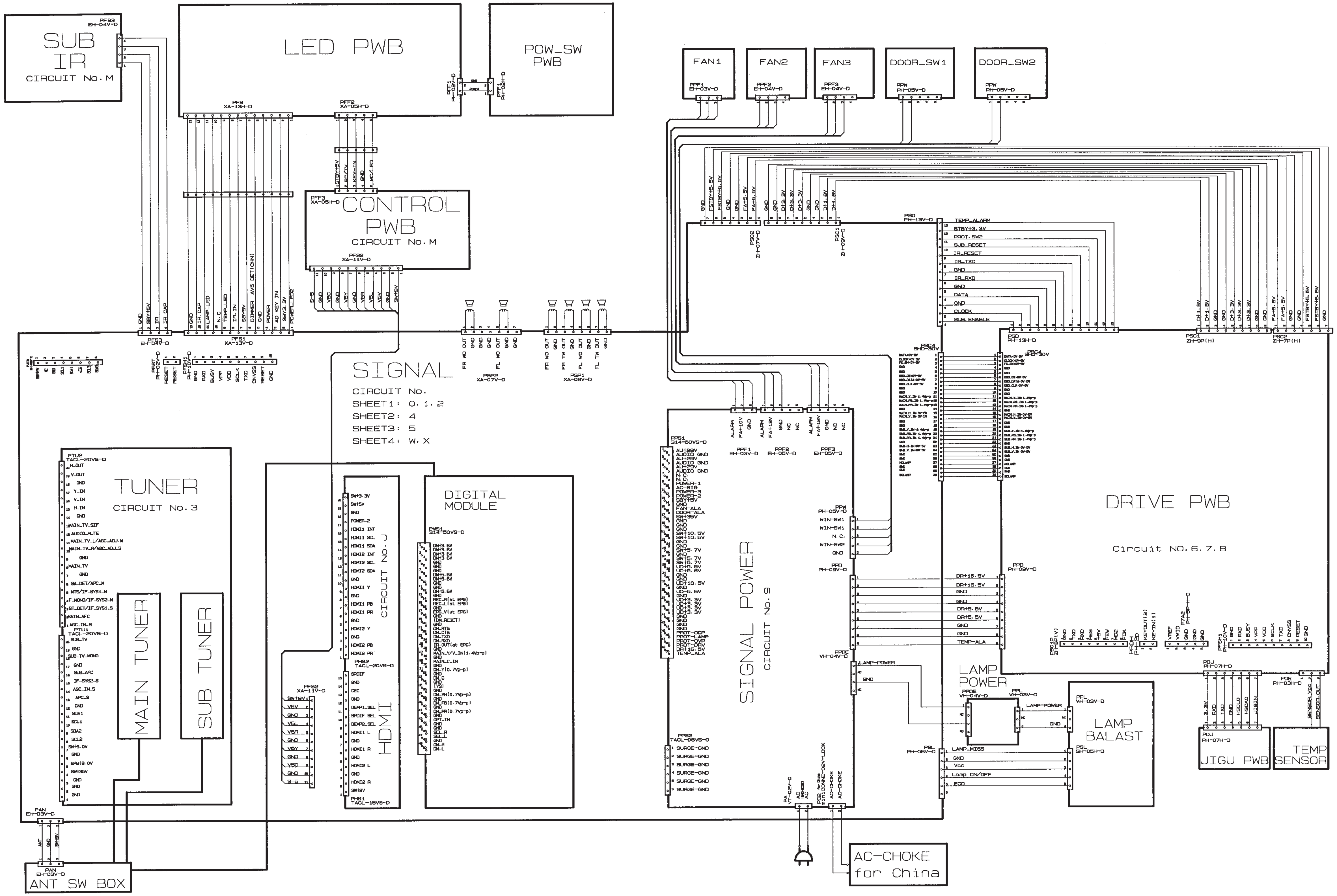
(continued) **EXPLODED VIEW PARTS LIST**			
Drawing No.	**Description**	**Part No. 70VS810**	**Service Part***
38	BARRIER BOARD, SUPPORT BRACKET, RIGHT	NJ20111	NO
39	POWER PWB HOLDER	NT04482	NO
40	LAMP POWER PWB HOLDER	NT04491	NO
41	BACK BONE, METAL	NA74051	NO
42	LAMP FAN HOLDER	NJ20362	NO
43	**OPTICAL ENGINE ASSEMBLY**	**see page 240**	**YES**
44	LENS GUARD	NJ09823	NO
45	**CHASSIS ASSEMBLY**	**see page 240**	**YES**
46	**LAMP POWER UNIT (BALLAST)**	**see page 240**	**YES**
47	**CONTROL PWB ASSEMBLY**	**see page 240**	**YES**
48	WOOFER BRACKET	NA73431	NO
49	**POWER SUPPLY FAN HOLDER**	**NJ20072**	**YES**
50	**FAN**	**GS01121**	**YES**

*Service Parts can be ordered from the Parts department. If the item is not a Service Part (even though there is a part number), it's not possible to order from the Parts department.

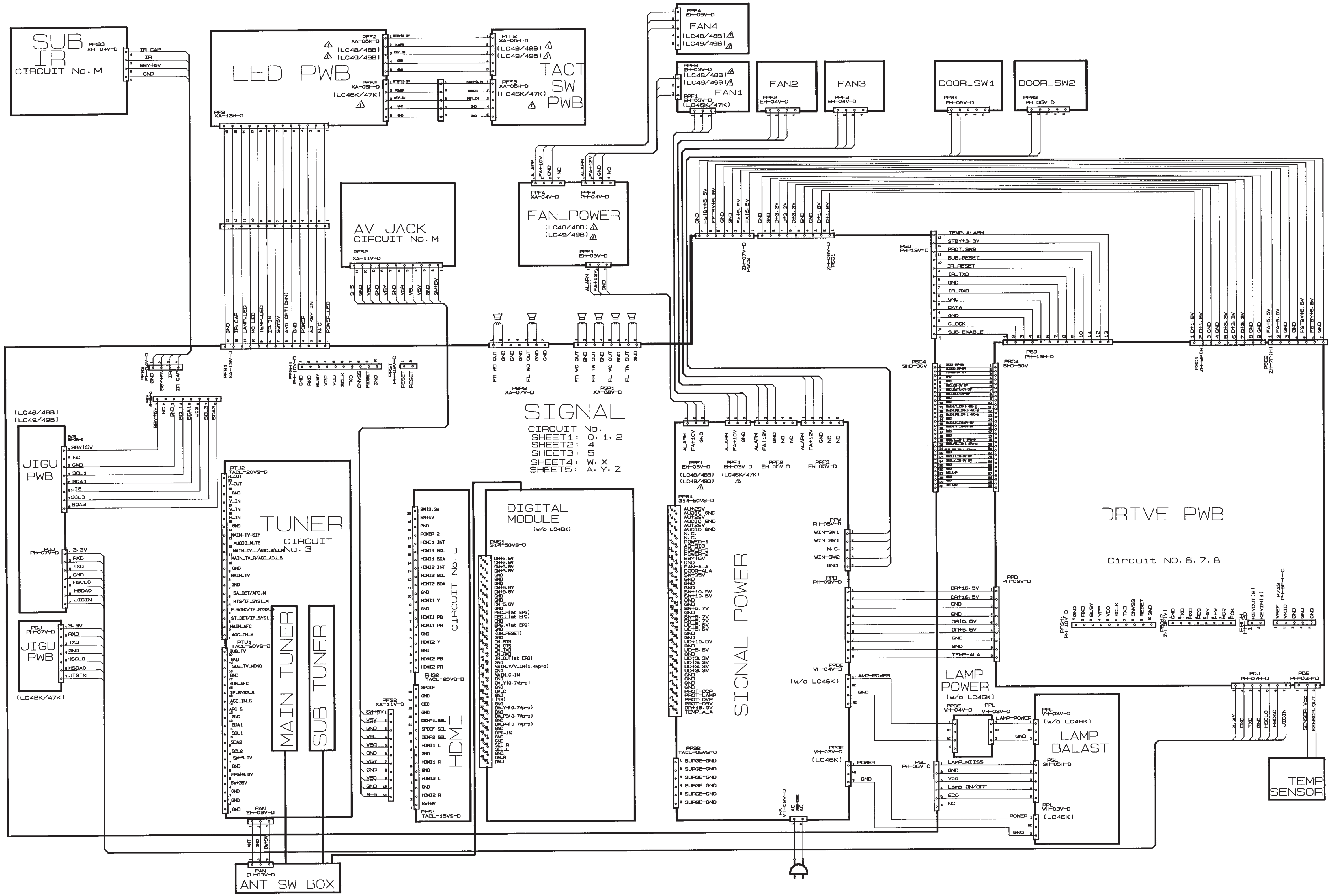
BLOCK DIAGRAM


AV_JACK PWB
TACT_SW PWB
LED PWB
SUB IR PWB
INPUT5
USB
TEMP LED
LAMP LED
POWER LED
IR IN
TEMP SENSOR PWB
DRIVE PWB
FC-4 Unit
IF01 M61303FP
IE11 TA1358
IE01 TA1358
IL31 YGT-039
I601 Sub μ-con M30624
E2P ROM M24F64W
I750 E7070 TG
E6110 DRIVER I7K0
E6110 DRIVER I7F0
E6110 DRIVER I7A0
LCD B
LCD G
LCD R
0.7" 1280x720 L3D07H
SIGNAL PWB
IA01 Volume Control SRS/BBE NJW1160M
IA02 Audio AMP 24W TA8258H
IA05 Audio AMP 24W TA8258H
LPF
I009 3.3V-5.0V BUFFER
I010 BUS Selector BU4053BCFV
I004 TV MICRO M306V7XXX
I007 EEPROM
I002 WDT
Sync Separation
I005 Sync Det. Selector BU4053BCFV
IY01 Main/SUB BU4053BCFV
IY02 Main CCD Mix TA1287F
IY03 Sub CCD Mix TA1287F
IY04 NJM2584
I503 inverter SN74AHCT14DR
Tuner PWB
I302 MAIN SYNC SEP. TA1370FG
I501 SUB YPBPR SELECTOR AN15865A
I502 MAIN YPBPR SELECTOR AN15865A
IV08 MAIN NTSC VIDEO/CHROMA TA1270BF for USA
IV12 SUB NTSC VIDEO/CHROMA TA1270BF for USA
IV02 MAIN 3D.Y/C uPD64084GF
IV04 SUB 2L.Y/C TC90A45A for China
LPF/AMP/TILT
LPF/AMP
LPF
-6dB Buffer
+6dB
I402 VIDEO SELECTOR MM1630XQ
I401 AUDIO SELECTOR MM1631XJBE
I403 AUDIO SELECTOR for EPG BU4053BCFV
U302 SUB TUNER IF
U301 MAIN TUNER IF/MTS
Antenna Switch Box
Antenna A Cable
Antenna B Terrestrial
MONITOR OUT HiFi OUT
INPUT4
INPUT3
INPUT2
INPUT1
HDMI PWB
IJ10 Audio.2 DAC PCM1754DBQ
IJ05 Audio.1 DAC PCM1754DBQ
IJ07 EEPROM BR24L02JF-W
IJ01 EEPROM BR24L02JF-W
IJ09 HDMI.2 Sil9993
IJ03 HDMI.1 Sil9993
IJ04 Optical Out Selecter TC74HC151AF
HDMI2
HDMI1
I005 RC232C DS14C232CM
RS232C
DIGITAL MODULE (w/o LC46K)
Digital TUNER
Seine
USB
CPU
Butler
TS
OPT OUT
IEEE 1394
POD
MMC
(LC48/48B/48C)
(LC49/49B/49C)
U901
SIGNAL POWER PWB
Pannel FAN2
Pannel FAN1
Lamp FAN
Chassis FAN
DOOR PWB
DOOR PWB
FAN_Alarm
DOOR_Alarm
(LC46K)
LAMP POWER PWB
(w/o LC46K)
370V
LAMP_ON/OFF
100/120W Select (Philips Lamp only)
LAMP_MISS
LAMP BALAST
LAMP
FAN Circuit

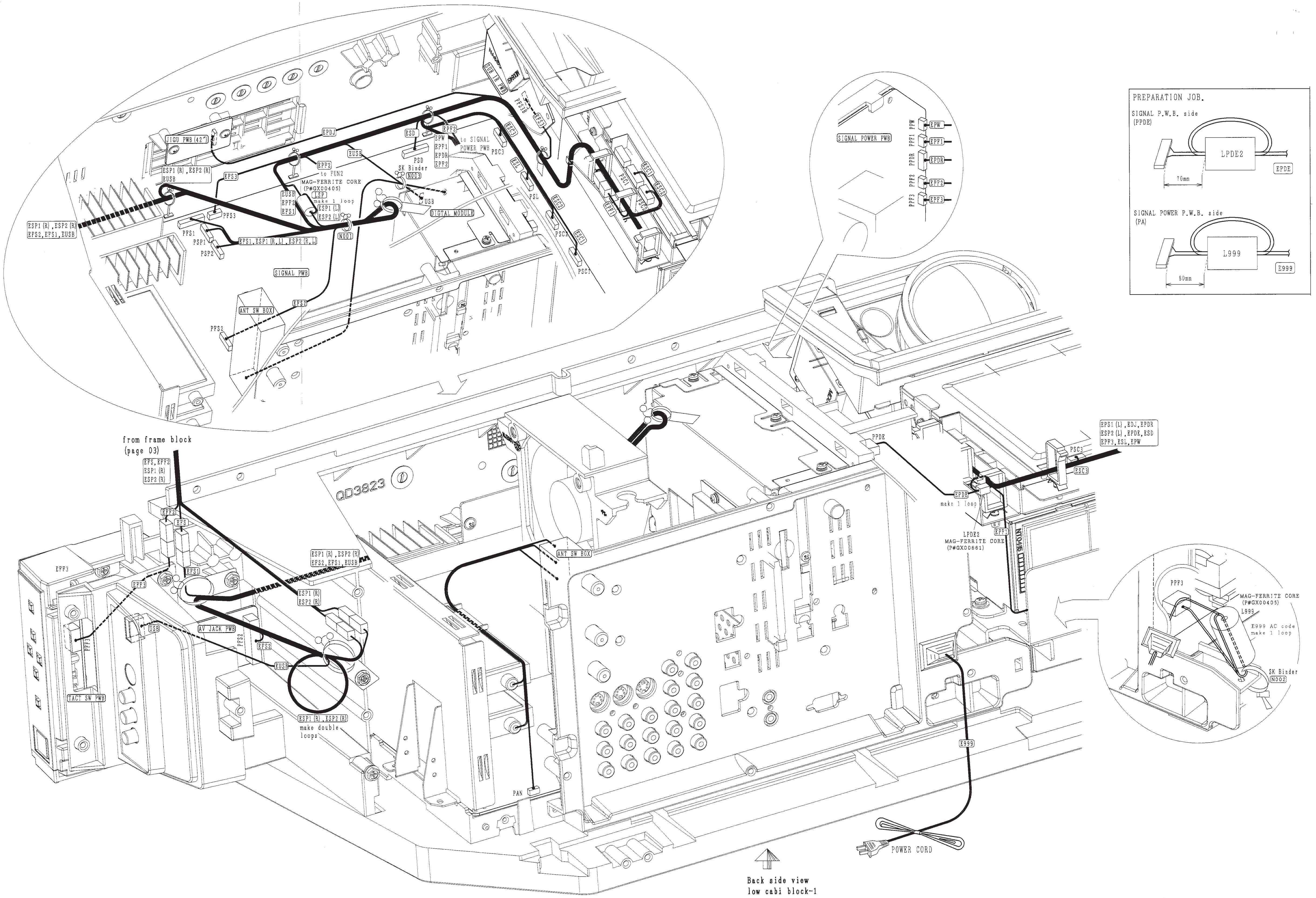
WIRING CONNECTION DIAGRAM


SUB IR
CIRCUIT No. M
LED PWB
POW_SW PWB
CONTROL PWB
CIRCUIT No. M
FAN1
FAN2
FAN3
DOOR_SW1
DOOR_SW2
SIGNAL
CIRCUIT No.
SHEET1: O, 1, 2
SHEET2: 4
SHEET3: 5
SHEET4: W, X
TUNER
CIRCUIT No. 3
MAIN TUNER
SUB TUNER
HDMI
CIRCUIT No. J
DIGITAL MODULE
SIGNAL POWER
CIRCUIT No. 9
DRIVE PWB
Circuit NO. 6, 7, 8
LAMP POWER
LAMP BALAST
JIGU PWB
TEMP SENSOR
ANT SW BOX
AC-CHOKE for China

WIRING CONNECTION DIAGRAM

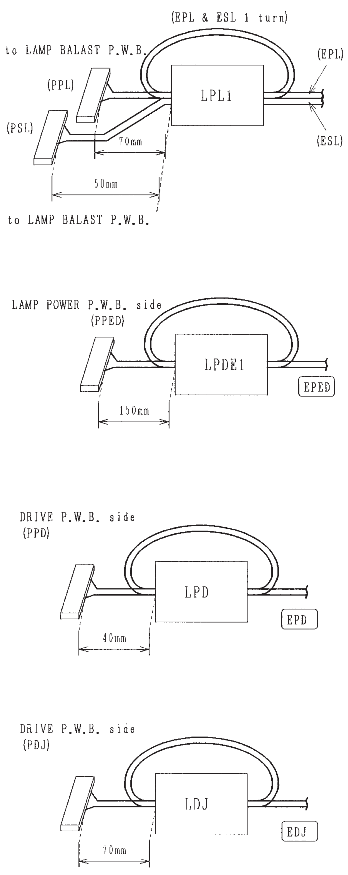

SUB IR
CIRCUIT No. M
LED PWB
TACT SW PWB
FAN4
FAN1
FAN2
FAN3
DOOR_SW1
DOOR_SW2
AV JACK
CIRCUIT No. M
FAN_POWER
(LC48/48B)
(LC49/49B)
SIGNAL
CIRCUIT No.
SHEET1: 0, 1, 2
SHEET2: 4
SHEET3: 5
SHEET4: W, X
SHEET5: A, Y, Z
JIGU PWB
(LC48/48B)
(LC49/49B)
JIGU PWB
(LC46K/47K)
TUNER
CIRCUIT No. 3
MAIN TUNER
SUB TUNER
HDMI
CIRCUIT No. J
DIGITAL MODULE
(w/o LC46K)
SIGNAL POWER
DRIVE PWB
Circuit NO. 6, 7, 8
LAMP POWER
(w/o LC46K)
LAMP BALAST
TEMP SENSOR
ANT SW BOX

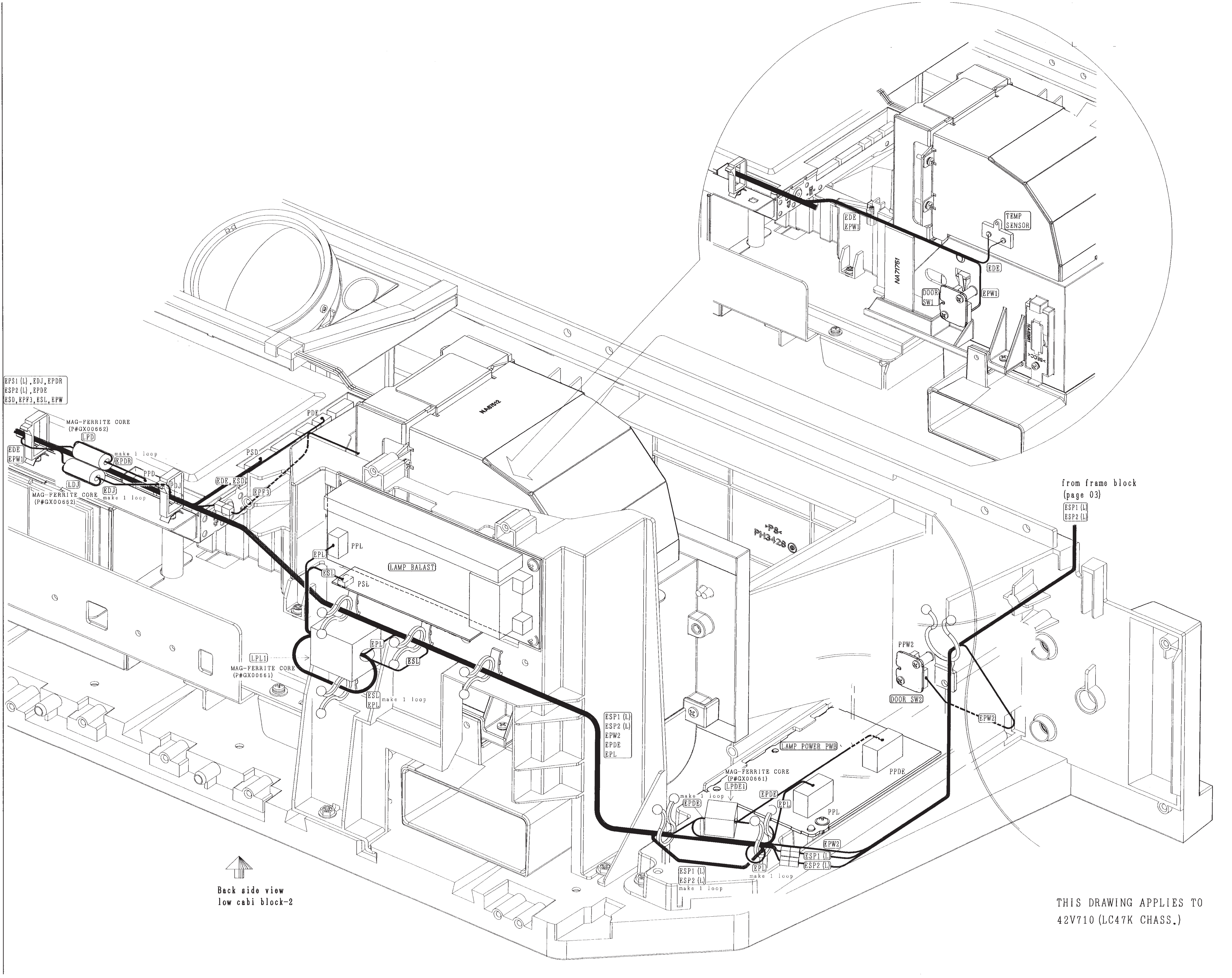
FINAL WIRING DIAGRAM


JIGU PWB (42")
EPDJ
EUSB
ESD
EPF2
EPW
EPF1
EPDR
EPF2
to SIGNAL POWER PWB
PSC3
SUB IR PWB
PFS3B
EFS3
ESC3
ESP1 (R), ESP2 (R)
EUSB
EFS3
EPF2
to FUN2
PSD
SK Binder
N003
MAG-FERRITE CORE (P#GX00405)
LSP
make 1 loop
EUSB
EPF2
EFS1
ESP1 (L)
ESP2 (L)
USB
DIGTAL MODULE
ESL
PSL
ESC2
PSC2
ESC1
PSC1
EPF1
ESP1 (R), ESP2 (R)
EFS2, EFS1, EUSB
PFS3
PFS1
PSP1
PSP2
EFS1, ESP1 (R, L), ESP2 (R, L)
N001
SIGNAL PWB
ANT SW BOX
EFS2
PFS2
SIGNAL POWER PWB
PPW
EPW
PPF1
EPF1
PPDR
EPDR
PPF2
EPF2
PPF3
EPF3
PREPARATION JOB.
SIGNAL P.W.B. side (PPDE)
LPDE2
EPDE
70mm
SIGNAL POWER P.W.B. side (PA)
L999
E999
80mm
from frame block (page 03)
EFS, EFF2
ESP1 (R)
ESP2 (R)
EFF2
EFS
EFF3
EFF3
EFS1
QD3823
ESP1 (R), ESP2 (R)
EFS2, EFS1, EUSB
ESP1 (R)
ESP2 (R)
USB
AV JACK PWB
PFF3
PFS2
EFS2
EUSB
TACT SW PWB
ESP1 (R), ESP2 (R)
make double loops
ANT SW BOX
PAN
PPDE
EPS1 (L), EDJ, EPDR
ESP2 (L), EPDE, ESD
EPF3, ESL, EPW
PSC3
ESC3
EPDE
make 1 loop
LPDE2
MAG-FERRITE CORE (P#GX00661)
EPF1
PPF3
MAG-FERRITE CORE (P#GX00405)
L999
E999 AC code make 1 loop
SK Binder
N002
E999
POWER CORD
Back side view
low cabi block-1

FINAL WIRING DIAGRAM

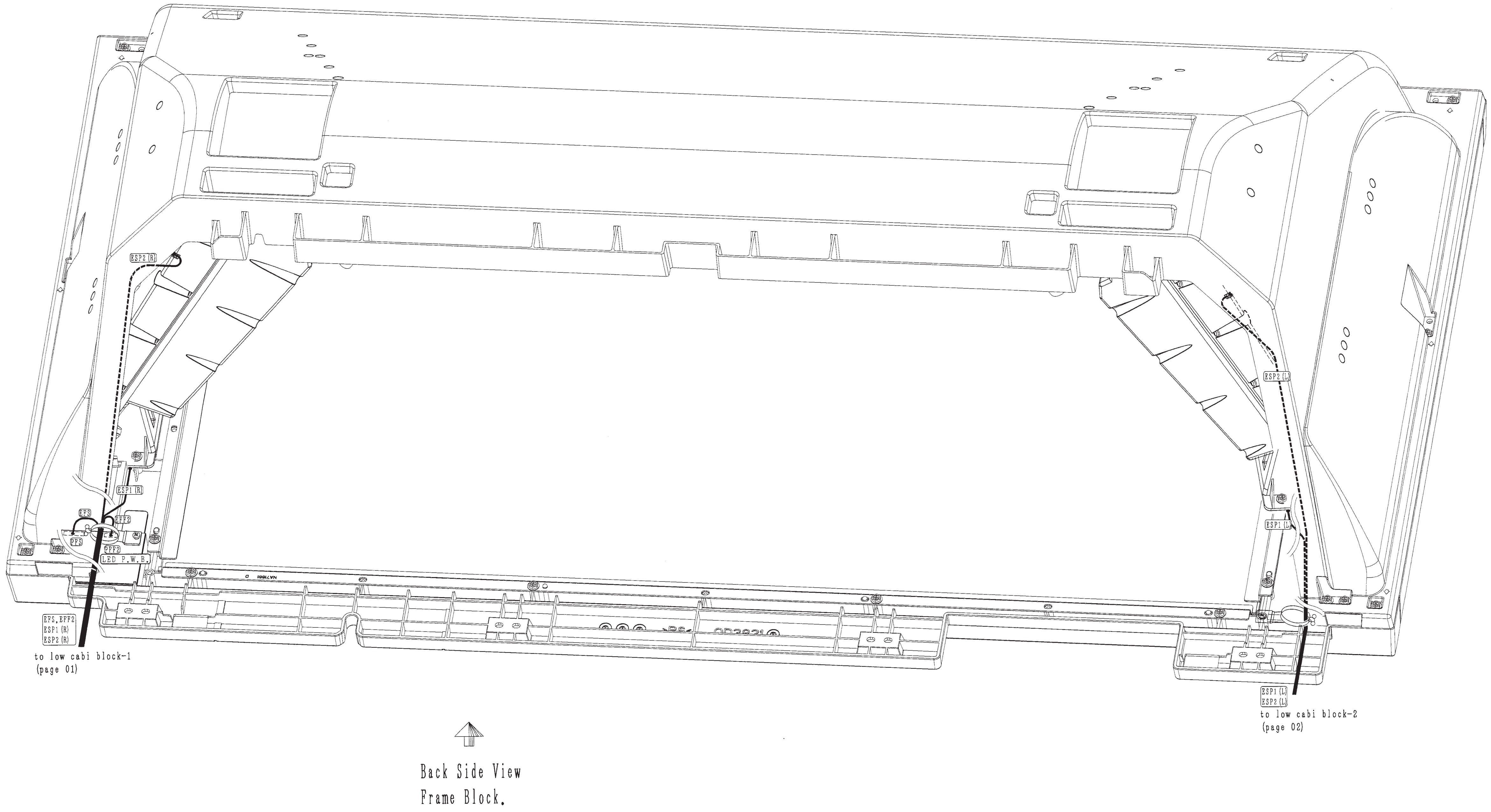
PREPARATION JOB.


(EPL & ESL 1 turn)
to LAMP BALAST P.W.B.
(PPL)
(PSL)
LPL1
(EPL)
(ESL)
70mm
50mm
to LAMP BALAST P.W.B.
LAMP POWER P.W.B. side
(PPED)
LPDE1
150mm
EPED
DRIVE P.W.B. side
(PPD)
LPD
40mm
EPD
DRIVE P.W.B. side
(PDJ)
LDJ
70mm
EDJ


EPS1 (L), EDJ, EPDR
ESP2 (L), EPDE
ESD, EPF3, ESL, EPW
MAG-FERRITE CORE
(P#GX00662)
LPD
EDE
EPW1
make 1 loop
EPDR
PPD
LDJ
EDJ
PDJ
MAG-FERRITE CORE
(P#GX00662)
make 1 loop
PSD
PDE
EDE, ESD
EPF3
PPL
EPL
ESL
PSL
LAMP BALAST
LPL1
MAG-FERRITE CORE
(P#GX00661)
EPL
ESL
ESL
EPL
make 1 loop
ESP1 (L)
ESP2 (L)
EPW2
EPDE
EPL
LAMP POWER PWB
MAG-FERRITE CORE
(P#GX00661)
LPDE1
make 1 loop
EPDE
EPDE
EPL
PPDE
PPL
EPW2
ESP1 (L)
ESP2 (L)
EPL
make 1 loop
ESP1 (L)
ESP2 (L)
make 1 loop
PPW2
DOOR SW2
EPW2
from frame block
(page 03)
ESP1 (L)
ESP2 (L)
EDE
EPW1
TEMP
SENSOR
EDE
DOOR
SW1
EPW1
Back side view
low cabi block-2

THIS DRAWING APPLIES TO
42V710 (LC47K CHASS.)

FINAL WIRING DIAGRAM


ESP2 (R)
ESP1 (R)
EFS
EFF2
PFS
PFF2
LED P.W.B.
EFS, EFF2
ESP1 (R)
ESP2 (R)
to low cabi block-1
(page 01)
ESP2 (L)
ESP1 (L)
ESP1 (L)
ESP2 (L)
to low cabi block-2
(page 02)
Back Side View
Frame Block.

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

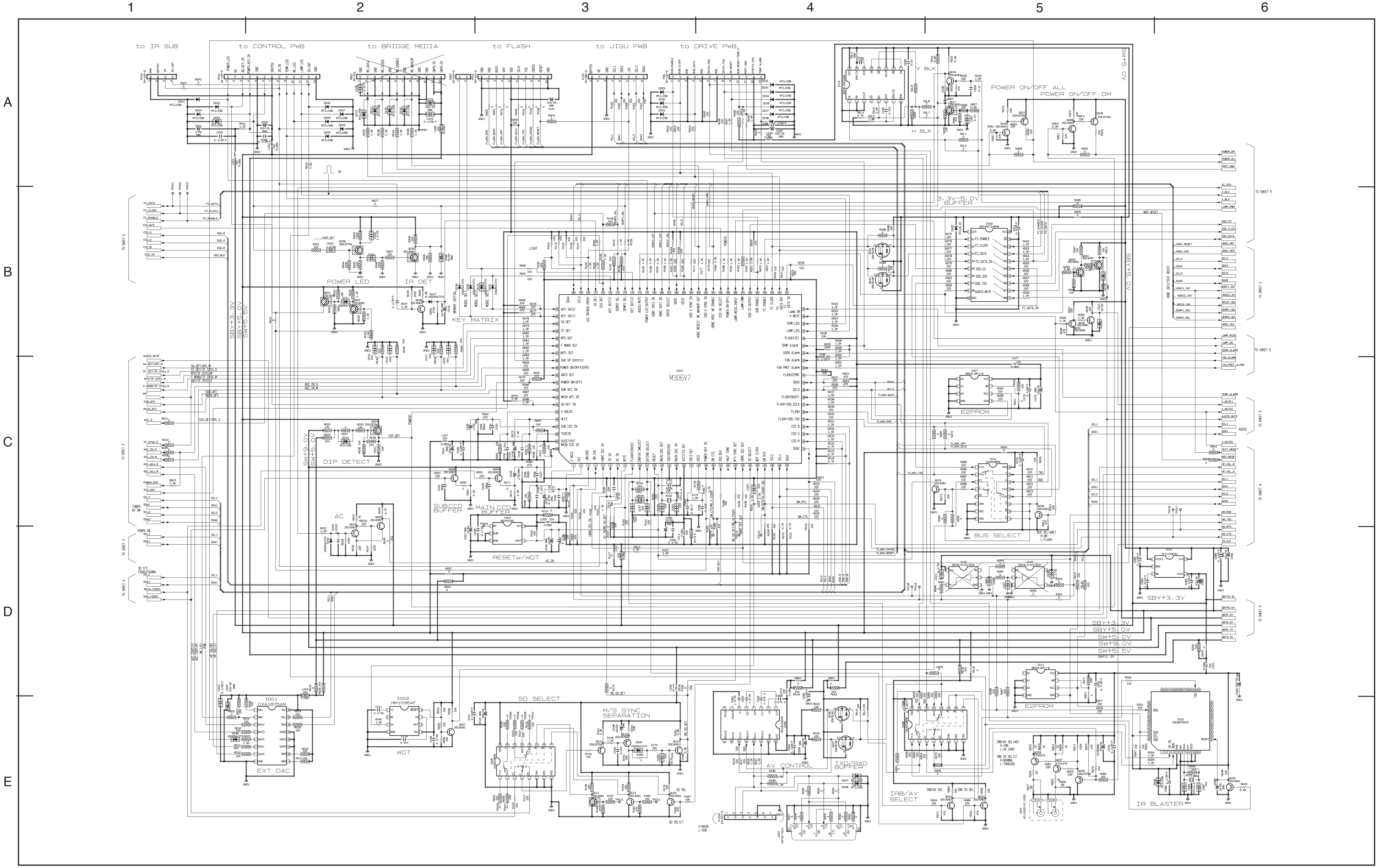
THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

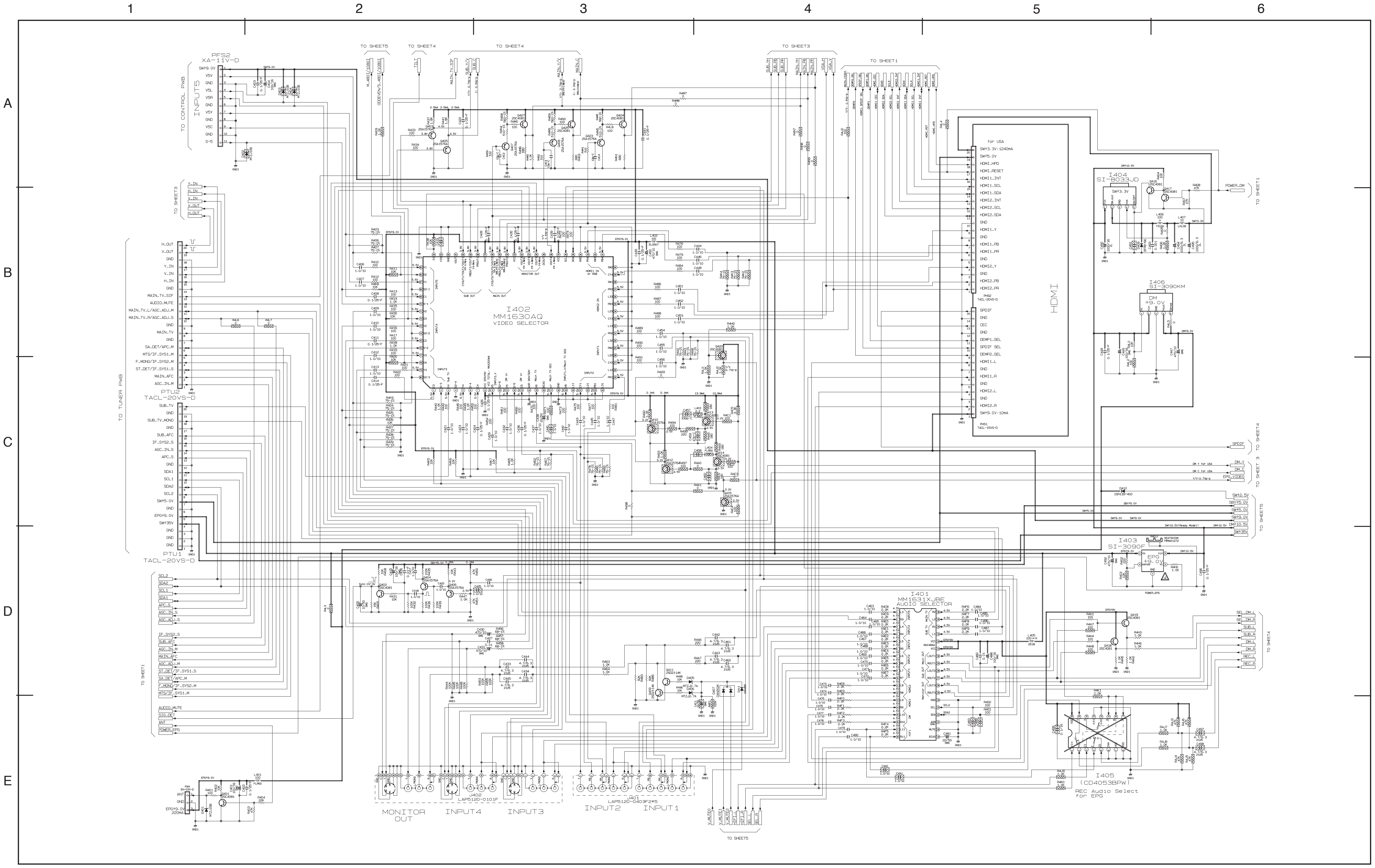

1
2
3
4
5
6
A
B
C
D
E
to IR SUB
to CONTROL PWB
to BRIDGE MEDIA
to FLASH
to JIGU PWB
to DRIVE PWB
V BLK
H BLK
POWER ON/OFF ALL
POWER ON/OFF DM
SW+5.0V
3.3V→5.0V BUFFER
POWER LED
IR DET
KEY MATRIX
SBY+3.3V
SW+5.5V
SBY+5.0V
M306V7
E2PROM
DIP DETECT
SW+9.0V
SW+5.0V
AC
SUBCCD BUFFER
MAIN CCD BUFFER
RESETw/WDT
BUS SELECT
SBY+3.3V
SBY+5.0V
SW+5.0V
SW+9.0V
SW+5.5V
EXT DAC
CXA1875AM
WDT
MM1096AF
SD SELECT
M/S SYNC SEPARATION
AV CONTROL
TXD/RXD BUFFER
IRB/AV SELECT
E2PROM
IR BLASTER
TO SHEET 5
TO SHEET 2
TO SHEET 4
TO SHEET 3

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

TABLE OF CONTENTS

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

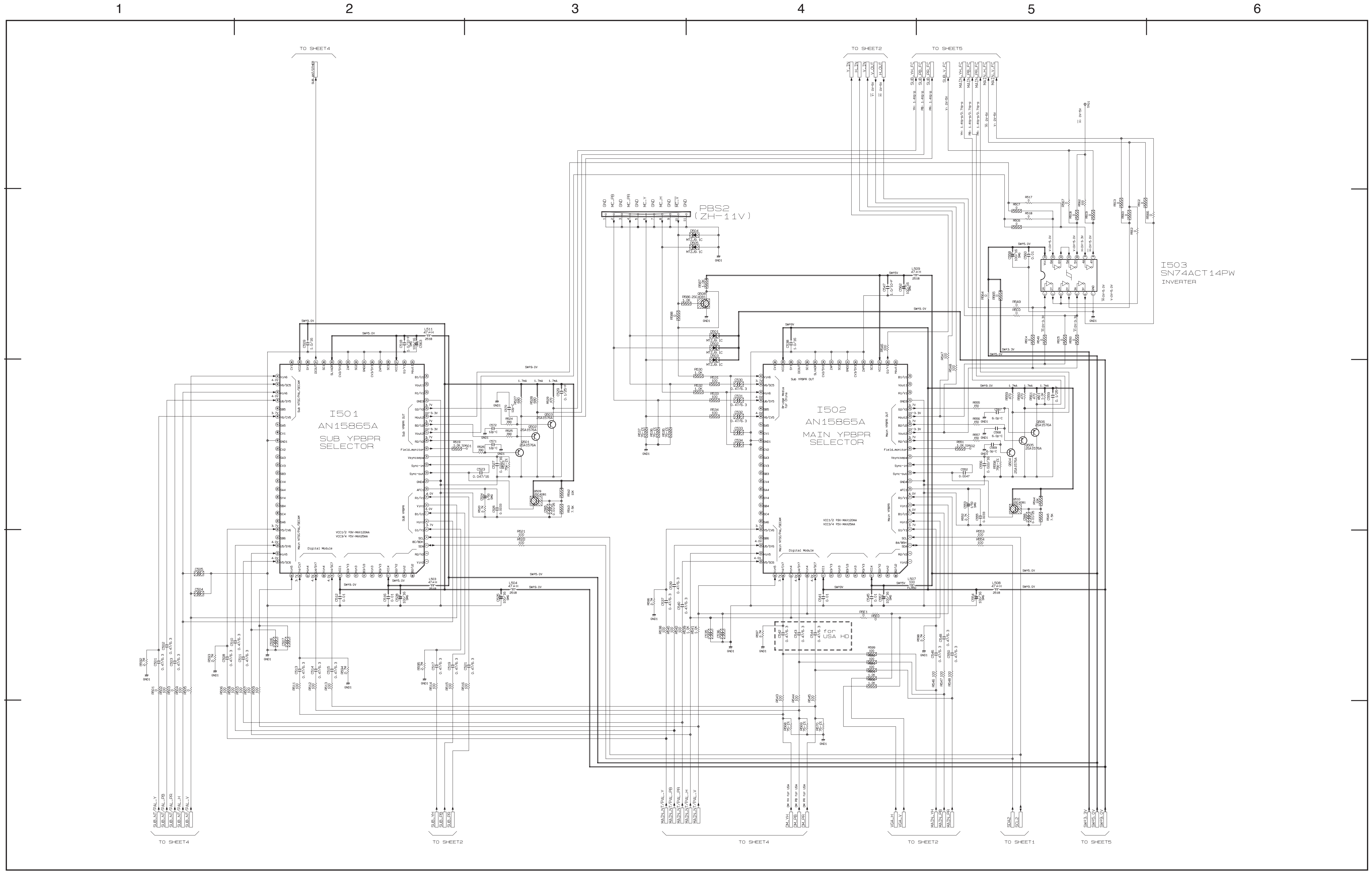

1
2
3
4
5
6
A
B
C
D
E
PFS2
XA-11V-D
INPUT5
TO CONTROL PWB
TO SHEET5
TO SHEET4
TO SHEET3
TO SHEET1
I402
MM1630AQ
VIDEO SELECTOR
for USA
HDMI
PH52
TACL-20VS-D
PH51
TACL-15VS-D
I404
SI-8033JD
I406
SI-3090KM
I403
SI-3090F
POWER_ON
PTU2
TACL-20VS-D
PTU1
TACL-20VS-D
TO TUNER PWB
I401
MM1631XJBE
AUDIO SELECTOR
I405
(CD4053BPW)
REC Audio Select
for EPG
J402
LAP5120-0101F
MONITOR OUT
INPUT4
INPUT3
J401
LAP5120-0403F245
INPUT2
INPUT1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 2 of 5

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

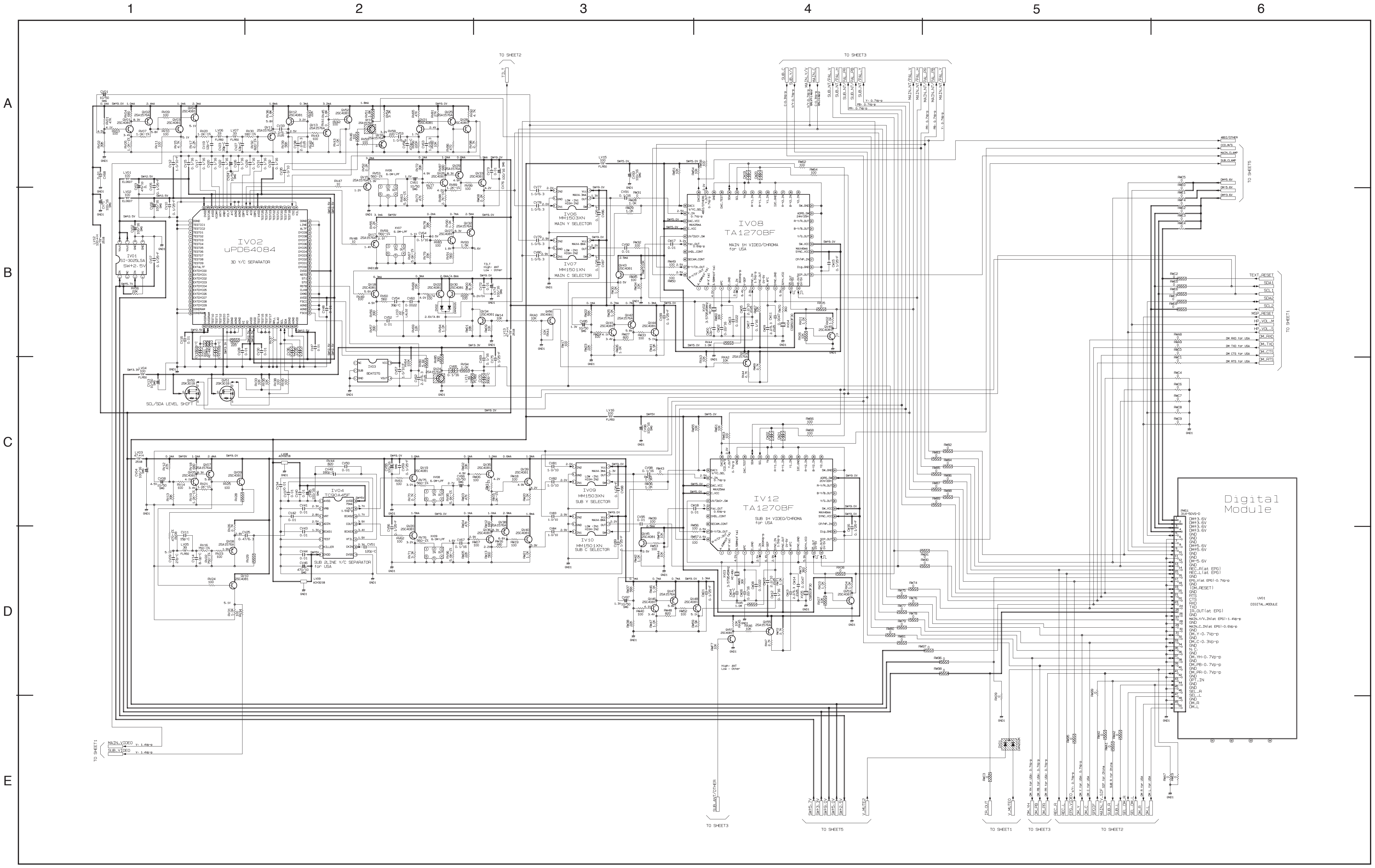
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
TO SHEET4
TO SHEET2
Y_IN
H_IN
V_IN
V_OUT
H_OUT
V̄: 0V-5V
H̄: 0V-5V
TO SHEET5
SUB_YH_FC
SUB_PB_FC
SUB_PR_FC
SUB_V_FC
MAIN_YH_FC
MAIN_PB_FC
MAIN_PR_FC
MAIN_H_FC
MAIN_V_FC
YH: 1.4Vp-p
PB: 1.4Vp-p
PR: 1.4Vp-p
V: 0V-5V
YH: 1.4Vp-p/0.7Vp-p
PB: 1.4Vp-p/0.7Vp-p
PR: 1.4Vp-p/0.7Vp-p
H̄: 0V-5V
V: 0V-5V
TP01
PBS2
(ZH-11V)
I503
SN74ACT14PW
INVERTER
I501
AN15865A
SUB YPBPR
SELECTOR
VCC1/2 +9V:MAX120mA
VCC3/4 +5V:MAX25mA
Digital Module
Sub NTSC/PAL/SECAM
Main NTSC/PAL/SECAM
Sub YPBPR OUT
SUB YPBPR
SW+9.0V
SW+5.0V
L511
47μH
L503
47μH
I502
AN15865A
MAIN YPBPR
SELECTOR
Bridge Media for China
Main YPBPR OUT
Main YPBPR
SW+9V
SW+5V
L507
for
USA HD
SUB_NT/PAL_Y
SUB_NT/PAL_PB
SUB_NT/PAL_PR
SUB_NT/PAL_H
SUB_NT/PAL_V
TO SHEET4
SUB_YH
SUB_PB
SUB_PR
TO SHEET2
MAIN_NT/PAL_Y
MAIN_NT/PAL_PB
MAIN_NT/PAL_PR
MAIN_NT/PAL_H
MAIN_NT/PAL_V
DM YH for USA
DM PB for USA
DM PR for USA
DM_YH
DM_PB
DM_PR
TO SHEET4
VGA_H
VGA_V
MAIN_YH
MAIN_PB
MAIN_PR
TO SHEET2
SDA2
SCL2
TO SHEET1
SW+3.3V
SW+5.0V
SW+9.0V
TO SHEET5

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

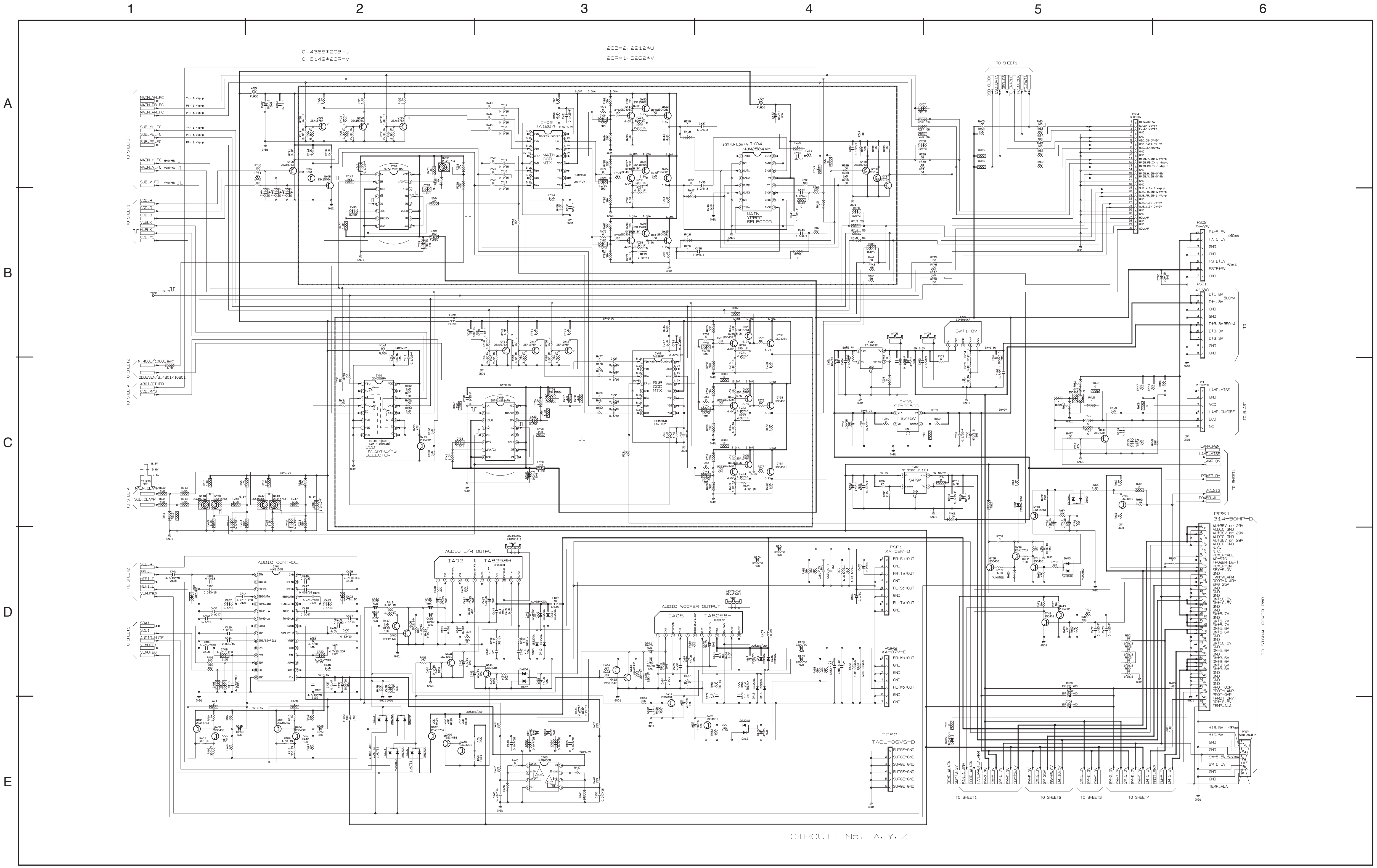

1
2
3
4
5
6
A
B
C
D
E
TO SHEET2
TO SHEET3
IV02
uPD64084
3D Y/C SEPARATOR
IV01
SI-3025LSA
SW+2.5V
SCL/SDA LEVEL SHIFT
IV06
MM1503XN
MAIN Y SELECTOR
IV07
MM1501XN
MAIN C SELECTOR
IV08
TA1270BF
MAIN 1H VIDEO/CHROMA
for USA
IV04
TC9049F
SUB 2LINE Y/C SEPARATOR
for USA
IV09
MM1503XN
SUB Y SELECTOR
IV10
MM1501XN
SUB C SELECTOR
IV12
TA1270BF
SUB 1H VIDEO/CHROMA
for USA
Digital
Module
TO SHEET5
TO SHEET1
MAIN_VIDEO
SUB_VIDEO
TO SHEET1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 4 of 5

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

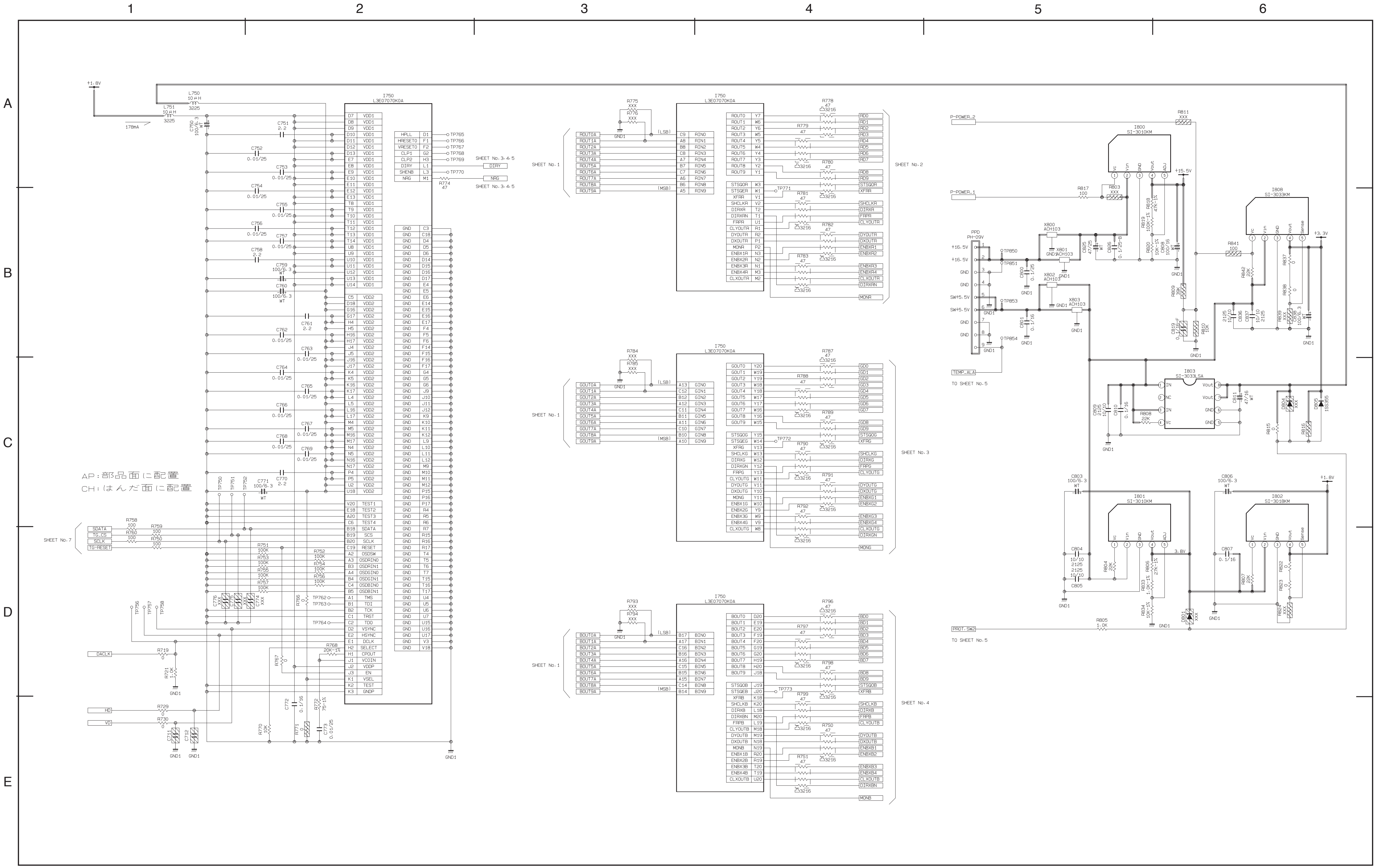

1
2
3
4
5
6
A
B
C
D
E
0.4365*2CB=U
0.6149*2CR=V
2CB=2.2912*U
2CR=1.6262*Y
TO SHEET3
TO SHEET1
TO SHEET2
TO SHEET4
MAIN CCD MIX
TA1287F
High-B Low-A IY04
NJM2584AM
MAIN YPBPR SELECTOR
CCD HV_SYNC/YS SELECTOR
SUB CCD MIX
IY06
SI-3050C
SW+5V
SW+1.8V
SW+9V
AUDIO CONTROL
AUDIO L/R OUTPUT
IA02 TA8258H
AUDIO WOOFER OUTPUT
IA05 TA8258H
HEATSINK
PSP1
XA-08V-D
PSP2
XA-07V-D
PPS2
TACL-06VS-D
PPS1
314-50HP-D
PSC1
ZH-09V
PSC2
ZH-07V
TO BLAST
TO SIGNAL POWER PWB
TO SHEET1
TO SHEET2
TO SHEET3
TO SHEET4
CIRCUIT No. A.Y.Z

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 5 of 5

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

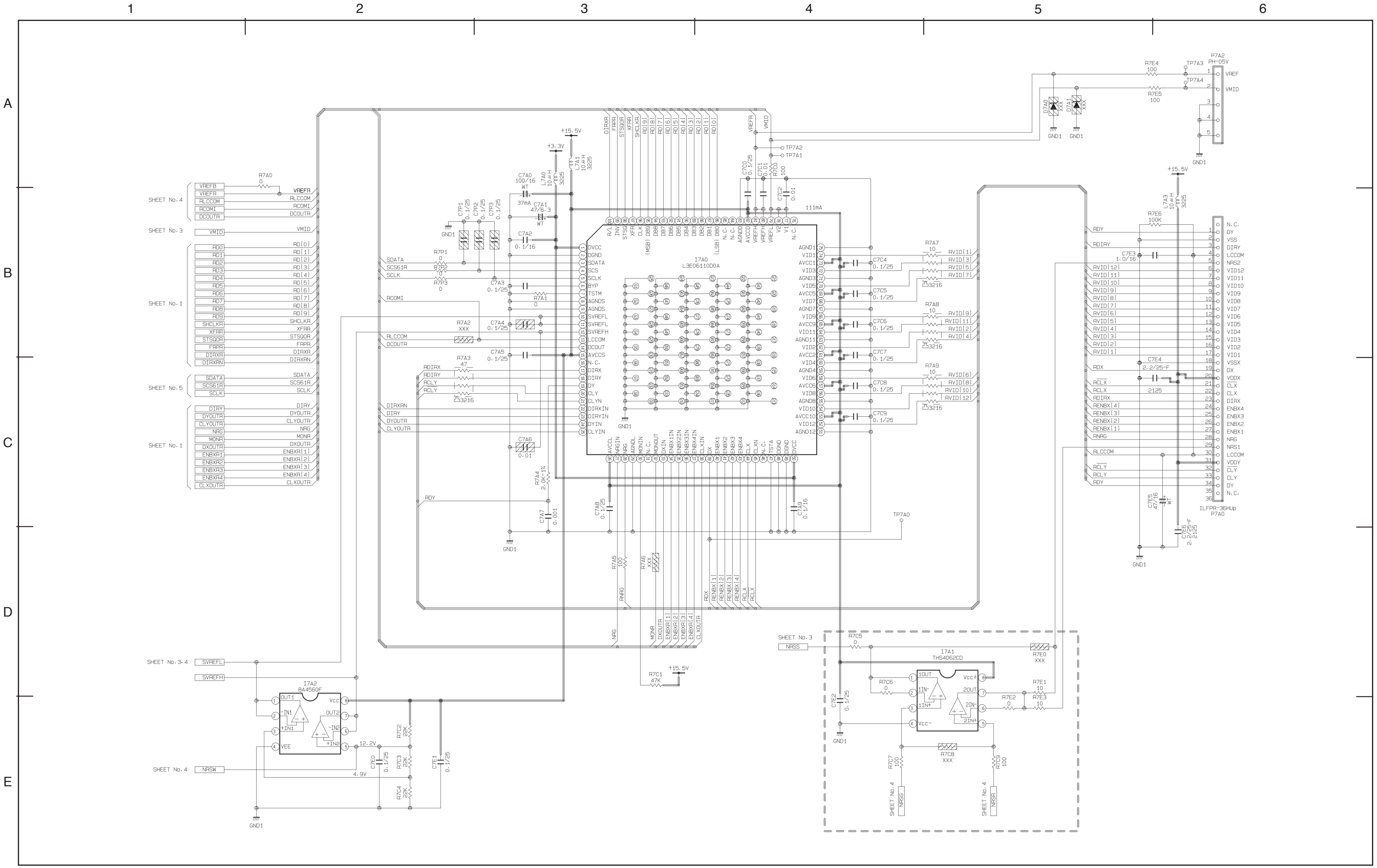
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
I750
L3E07070K0A
I800
SI-3010KM
I808
SI-3033KM
I803
SI-3033LSA
I801
SI-3010KM
I802
SI-3018KM
AP：部品面に配置
CH：はんだ面に配置
SHEET No.1
SHEET No.2
SHEET No.3
SHEET No.4
SHEET No.7
SHEET No.3･4･5
TO SHEET No.5
P-POWER_2
P-POWER_1
TEMP_ALA
PROT.SW2
+1.8V
+3.3V
+15.5V
SDATA
TG_CS
SCLK
TG-RESET
DACLK
HD
VD
GND1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

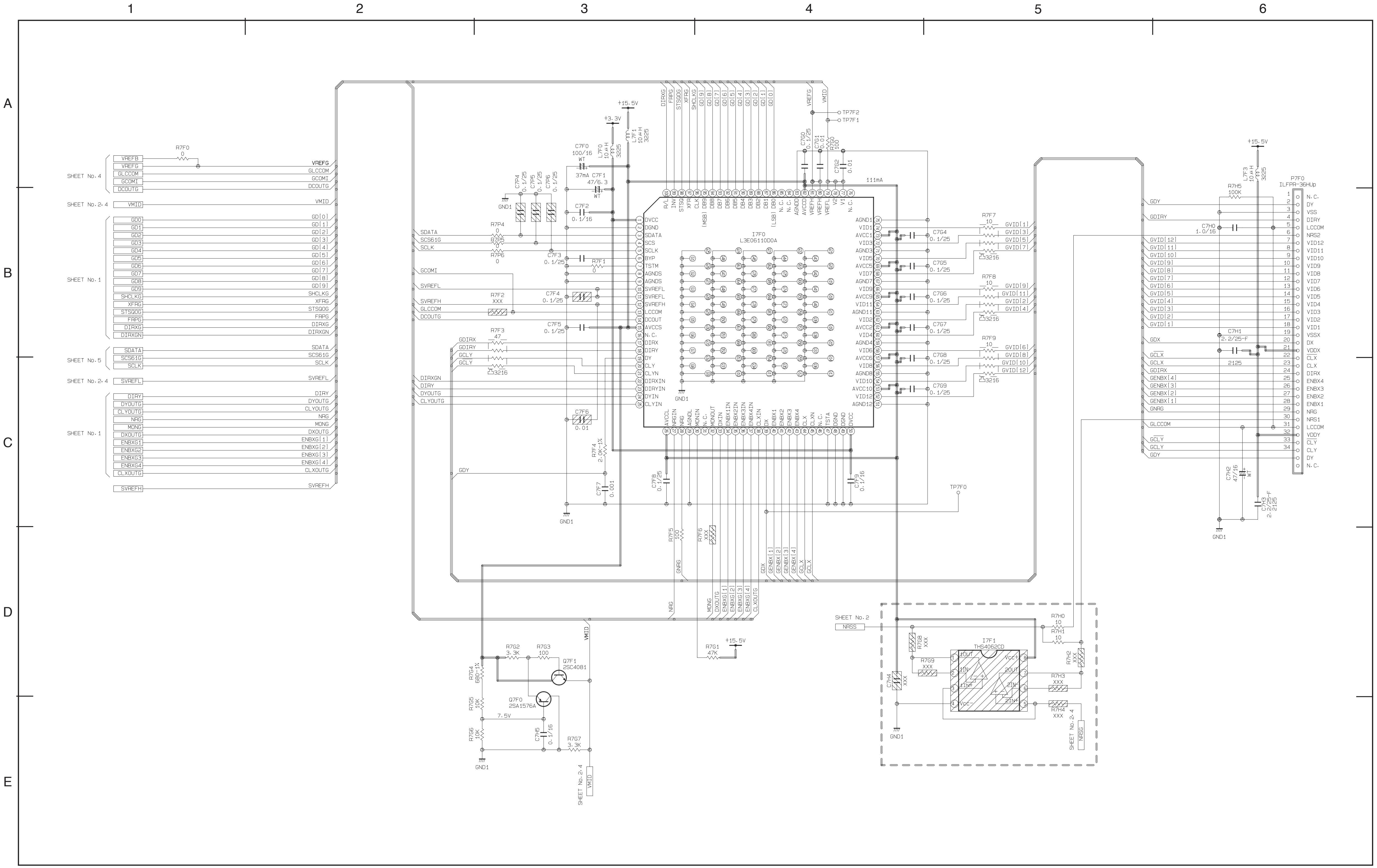

1
2
3
4
5
6
A
B
C
D
E
I7A0
L3E06110D0A
I7A1
THS4062CD
I7A2
BA4560F
P7A0
ILFPA-36HUp
P7A2
PH-05V
SHEET No. 4
SHEET No. 3
SHEET No. 1
SHEET No. 5
SHEET No. 3, 4
+15.5V
+3.3V
111mA
37mA
GND1
12.2V
4.9V
TP7A0
TP7A1
TP7A2
TP7A3
TP7A4
VREF
VMID
NRSS
NRSW

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Drive FC R-OUT

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

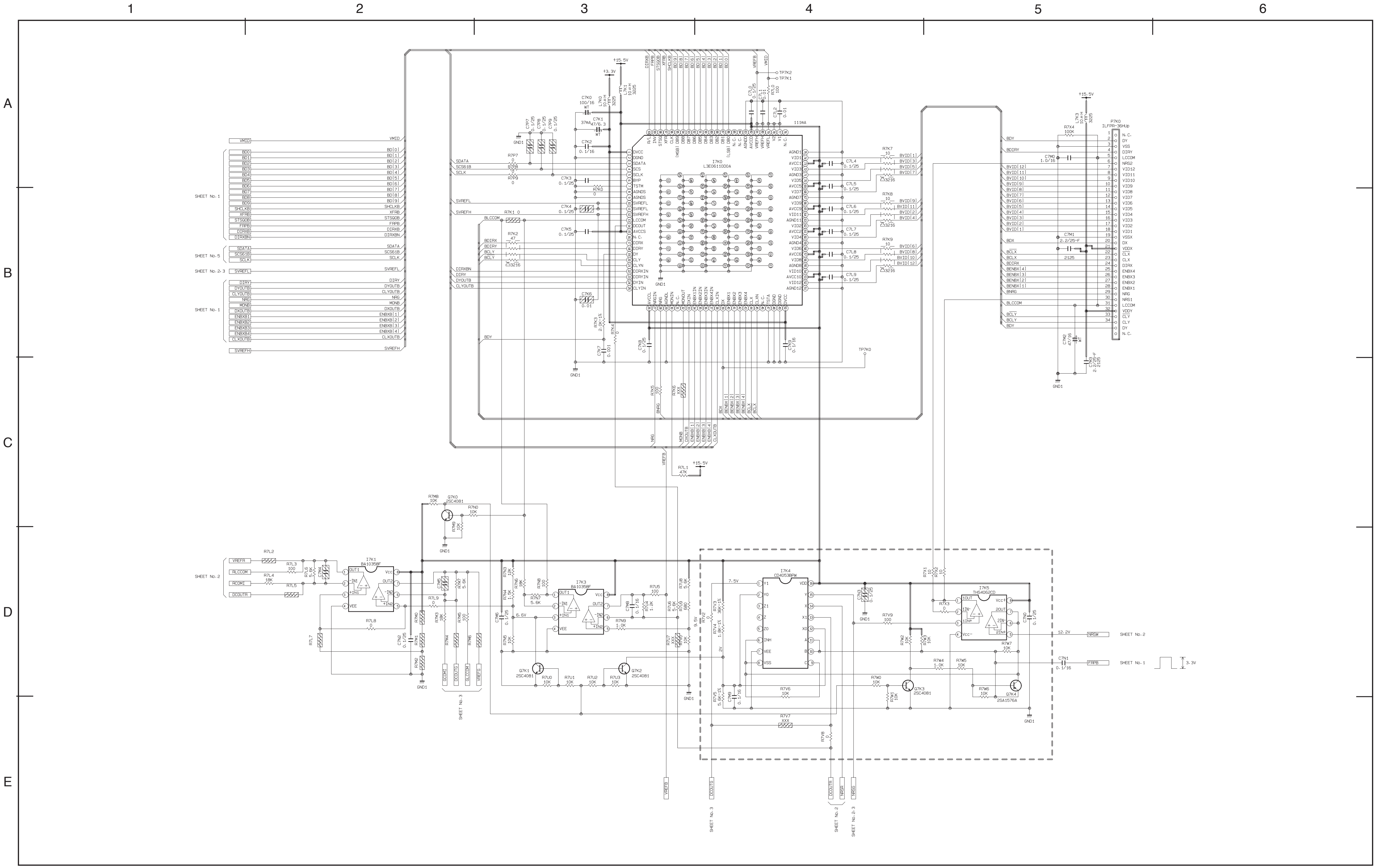

1
2
3
4
5
6
A
B
C
D
E
SHEET No.4
SHEET No.2,4
SHEET No.1
SHEET No.5
SHEET No.2
I7F0
I7F1
THS4062CD
Q7F1
2SC4081
Q7F0
2SA1576A
P7F0
+15.5V
+3.3V
GND1
TP7F0
TP7F1
TP7F2
VREFG
VREFB
GLCCOM
GCOMI
DCOUTG
VMID
SDATA
SCS61G
SCLK
SVREFL
SVREFH
NRSS
GDY
GDIRY
GCLY
GCLX
GDX
111mA
37mA

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Drive FC G-OUT

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

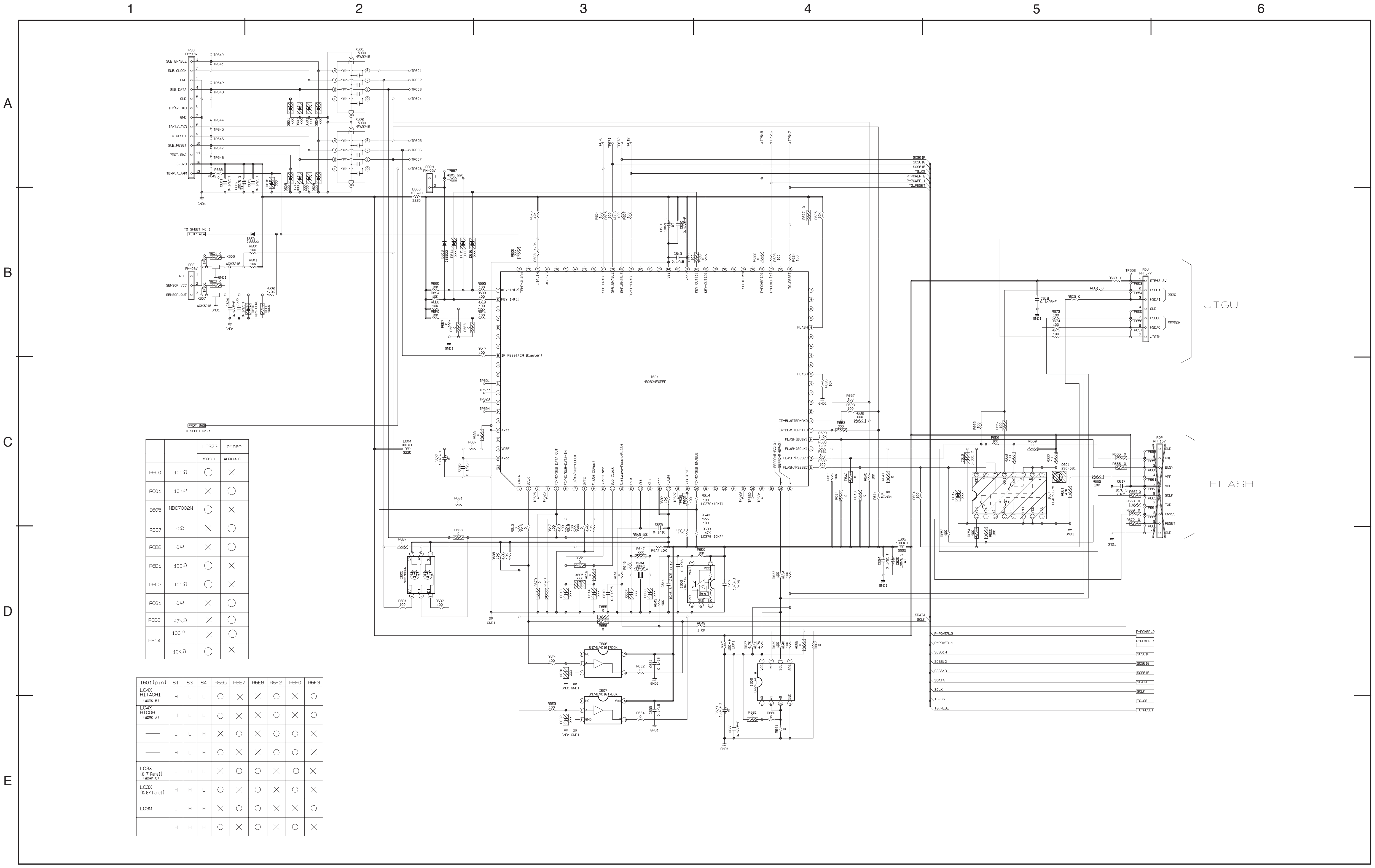

1
2
3
4
5
6
A
B
C
D
E
SHEET No.1
SHEET No.5
SHEET No.2-3
SHEET No.2
SHEET No.3
I7K0
L3E06110D0A
I7K1
BA10358F
I7K3
BA10358F
I7K4
CD4053BPW
I7K5
TH5406ZCD
P7K0
ILFPB-36HLB
Q7K0
2SC4081
Q7K1
2SC4081
Q7K2
2SC4081
Q7K3
2SC4081
Q7K4
2SA1576A
+15.5V
+3.3V
GND1
TP7K0
TP7K1
TP7K2
NRSH
FRPB
12.2V
3.3V
7.5V
6.6V

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Drive FC B-OUT

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
I601
M30624FGPFP
JIGU
FLASH
PROT.SW2
TO SHEET No.1
TEMP_ALM
TO SHEET No.1
SUB.ENABLE
SUB.CLOCK
SUB.DATA
GND
TEMP_ALARM
SCSS1S
SDATA
SCLK
P-POWER_2
P-POWER_1
TS_CS
TS_RESET
GND1

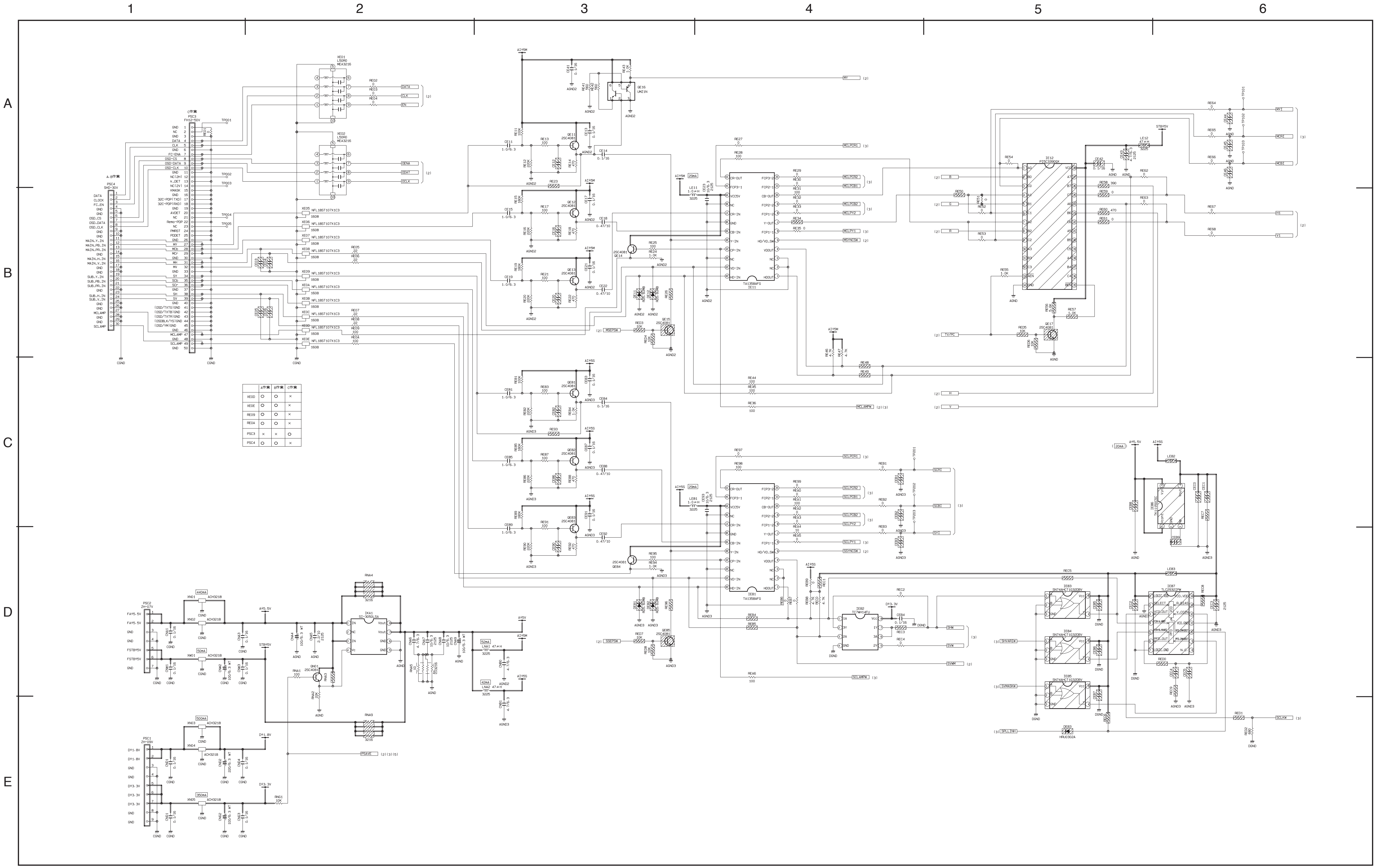
		LC37G	other
		WORK:C	WORK:A,B
R6C0	100Ω	○	×
R601	10KΩ	×	○
I605	NDC7002N	○	×
R6B7	0Ω	×	○
R6B8	0Ω	×	○
R6D1	100Ω	○	×
R6D2	100Ω	○	×
R6G1	0Ω	×	○
R6D8	47KΩ	×	○
R614	100Ω	×	○
	10KΩ	○	×

I601(pin)	81	83	84	R695	R6E7	R6E8	R6F2	R6F0	R6F3
LC4X HITACHI (WORK:B)	H	L	L	○	×	×	○	×	○
LC4X RICOH (WORK:A)	H	L	L	○	×	×	○	×	○
——	L	L	H	×	○	×	○	○	×
——	H	L	H	○	×	×	○	○	×
LC3X (0.7"Panel) (WORK:C)	L	H	L	×	○	○	×	○	×
LC3X (0.87"Panel)	H	H	L	○	×	○	×	○	×
LC3M	L	H	H	×	○	○	×	×	○
——	H	H	H	○	×	○	×	○	×

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

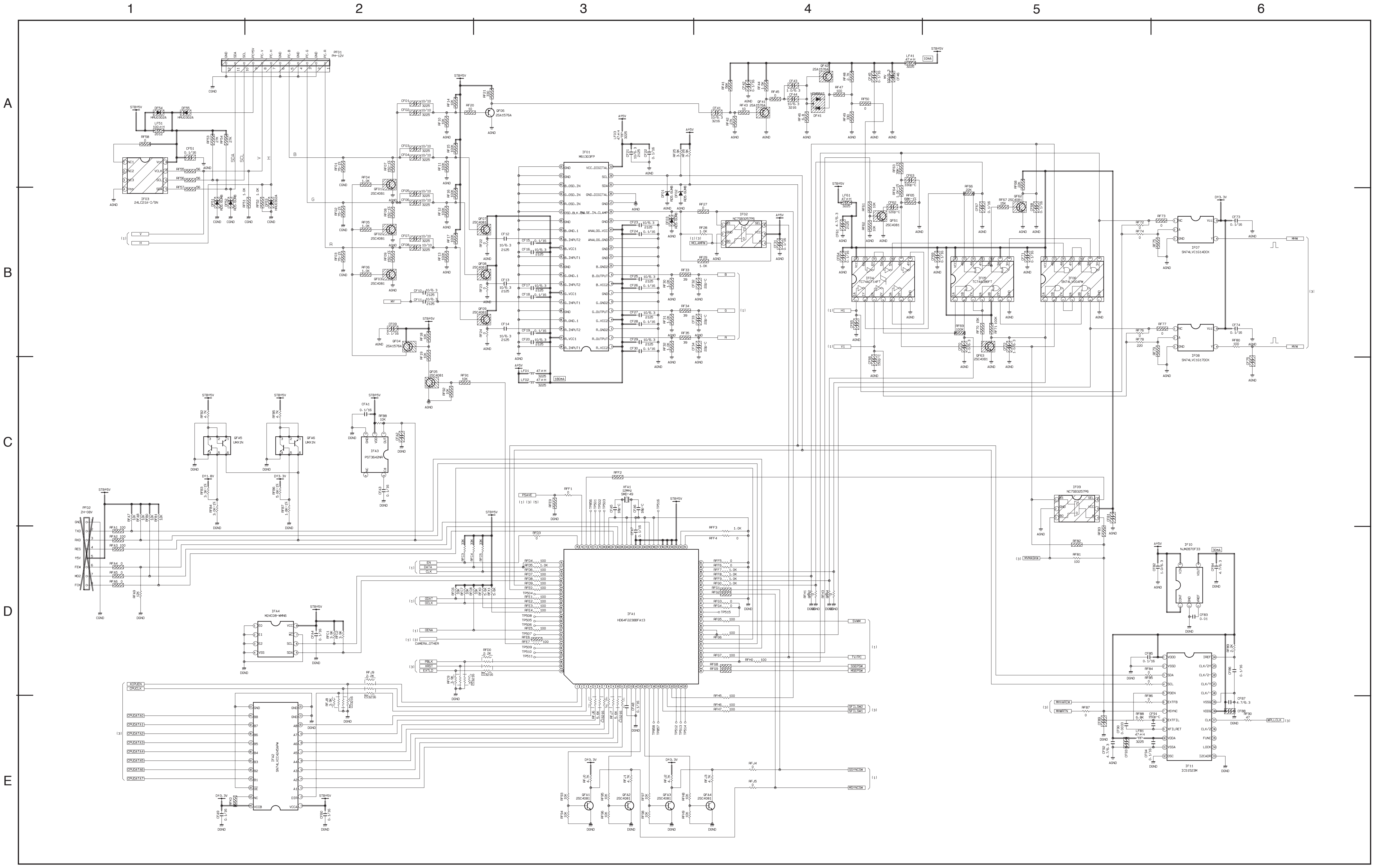
BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

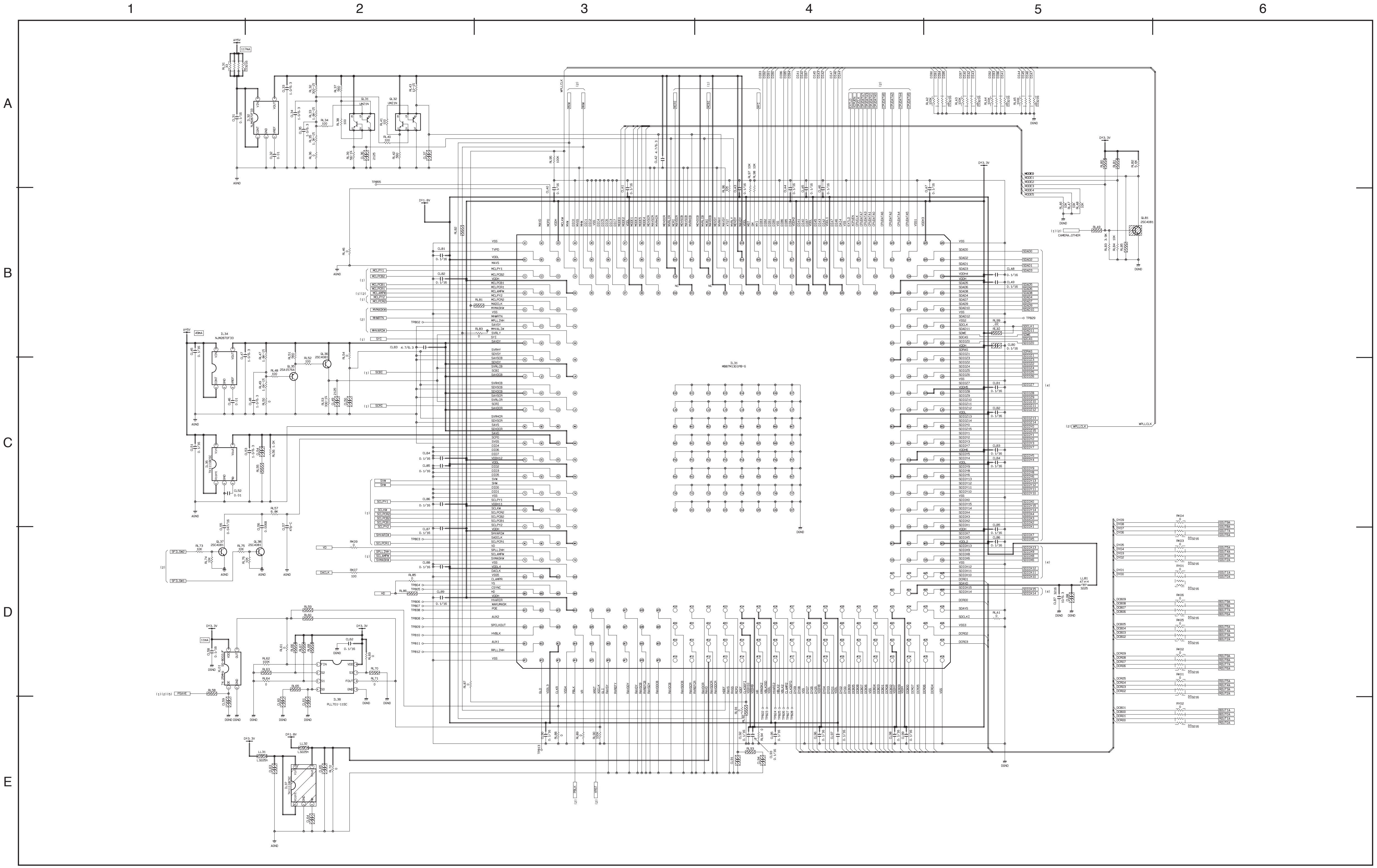


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Drive FC

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

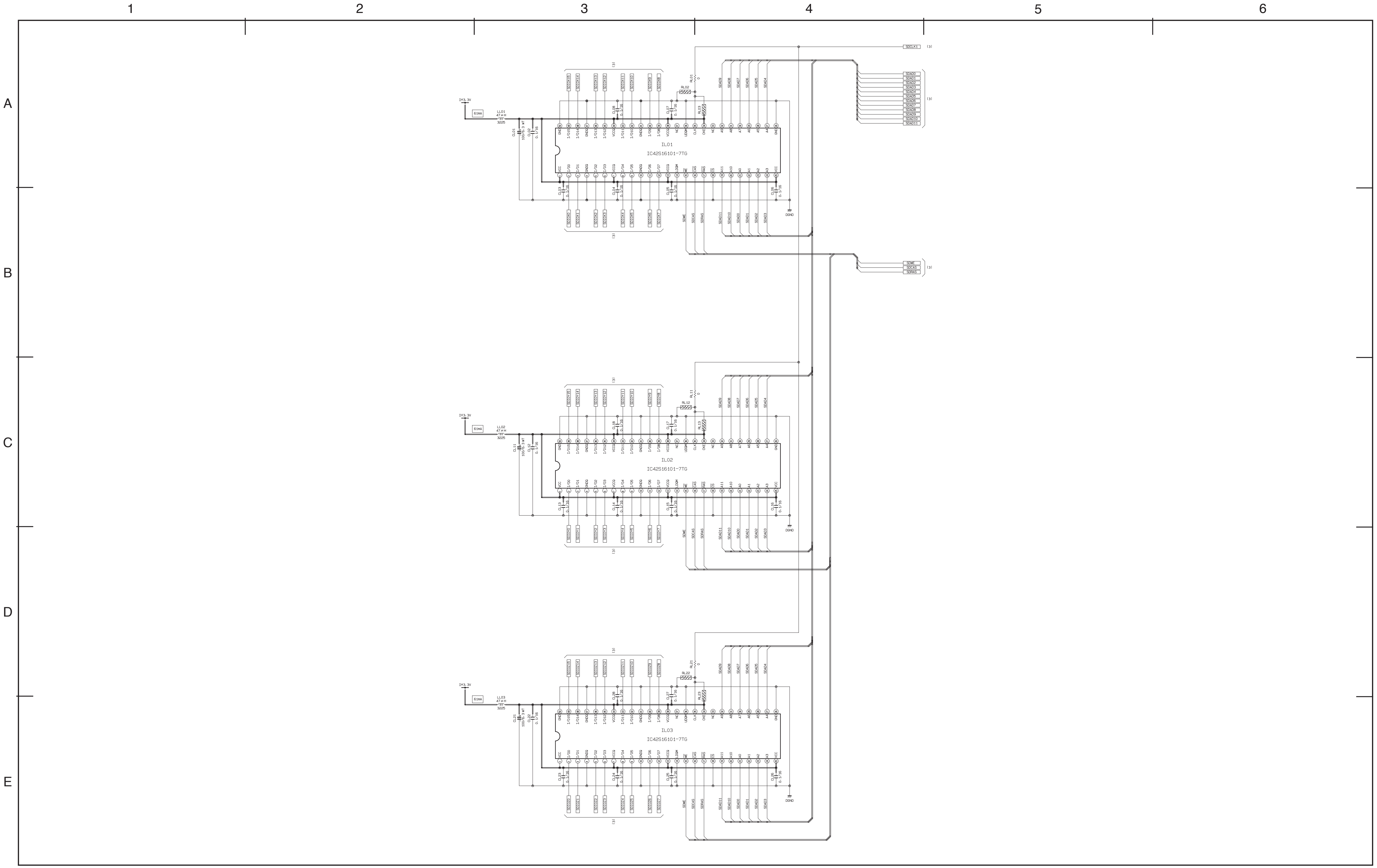

1
2
3
4
5
6
A
B
C
D
E
IL31
IL34
IL35
IL36
IL37
IL38
IL39
AGND
DGND
D+3.3V
D+1.8V
A+5V

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Drive FC

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

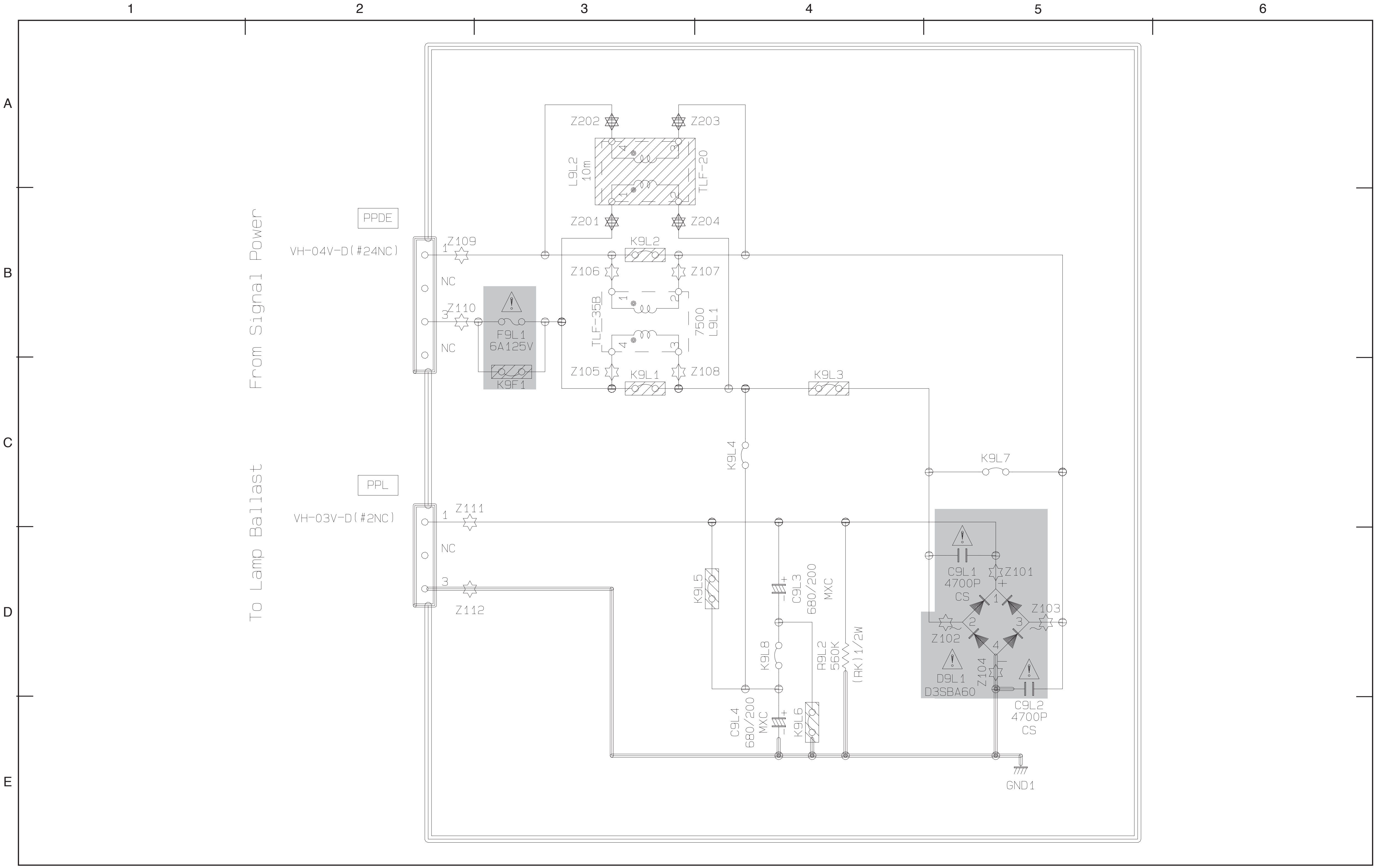
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
D+3.3V
61mA
LL01
47μH
3225
CL01
100/6.3 WT
CL02
0.1/16
CL03
CL04
CL05
CL06
CL07
CL08
RL01
0
RL02
RL03
IL01
IC42S16101-7TG
GND
I/O15
I/O14
GNDQ
I/O13
I/O12
VCCQ
I/O11
I/O10
I/O9
I/O8
NC
UDQM
CLK
CKE
A9
A8
A7
A6
A5
A4
VCC
I/O0
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
LDQM
WE
CAS
RAS
CS
A11
A10
A0
A1
A2
A3
SDIOX15
SDIOX14
SDIOX13
SDIOX12
SDIOX11
SDIOX10
SDIOX9
SDIOX8
SDIOX0
SDIOX1
SDIOX2
SDIOX3
SDIOX4
SDIOX5
SDIOX6
SDIOX7
(3)
SDCLK1
SDAD0
SDAD1
SDAD2
SDAD3
SDAD4
SDAD5
SDAD6
SDAD7
SDAD8
SDAD9
SDAD10
SDAD11
SDWE
SDCAS
SDRAS
DGND
LL02
CL11
CL12
CL13
CL14
CL15
CL16
CL17
CL18
RL11
RL12
RL13
IL02
IC42S16101-7TG
SDIOY15
SDIOY14
SDIOY13
SDIOY12
SDIOY11
SDIOY10
SDIOY9
SDIOY8
SDIOY0
SDIOY1
SDIOY2
SDIOY3
SDIOY4
SDIOY5
SDIOY6
SDIOY7
LL03
CL21
CL22
CL23
CL24
CL25
CL26
CL27
CL28
RL21
RL22
RL23
IL03
IC42S16101-7TG
SDIOZ15
SDIOZ14
SDIOZ13
SDIOZ12
SDIOZ11
SDIOZ10
SDIOZ9
SDIOZ8
SDIOZ0
SDIOZ1
SDIOZ2
SDIOZ3
SDIOZ4
SDIOZ5
SDIOZ6
SDIOZ7

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

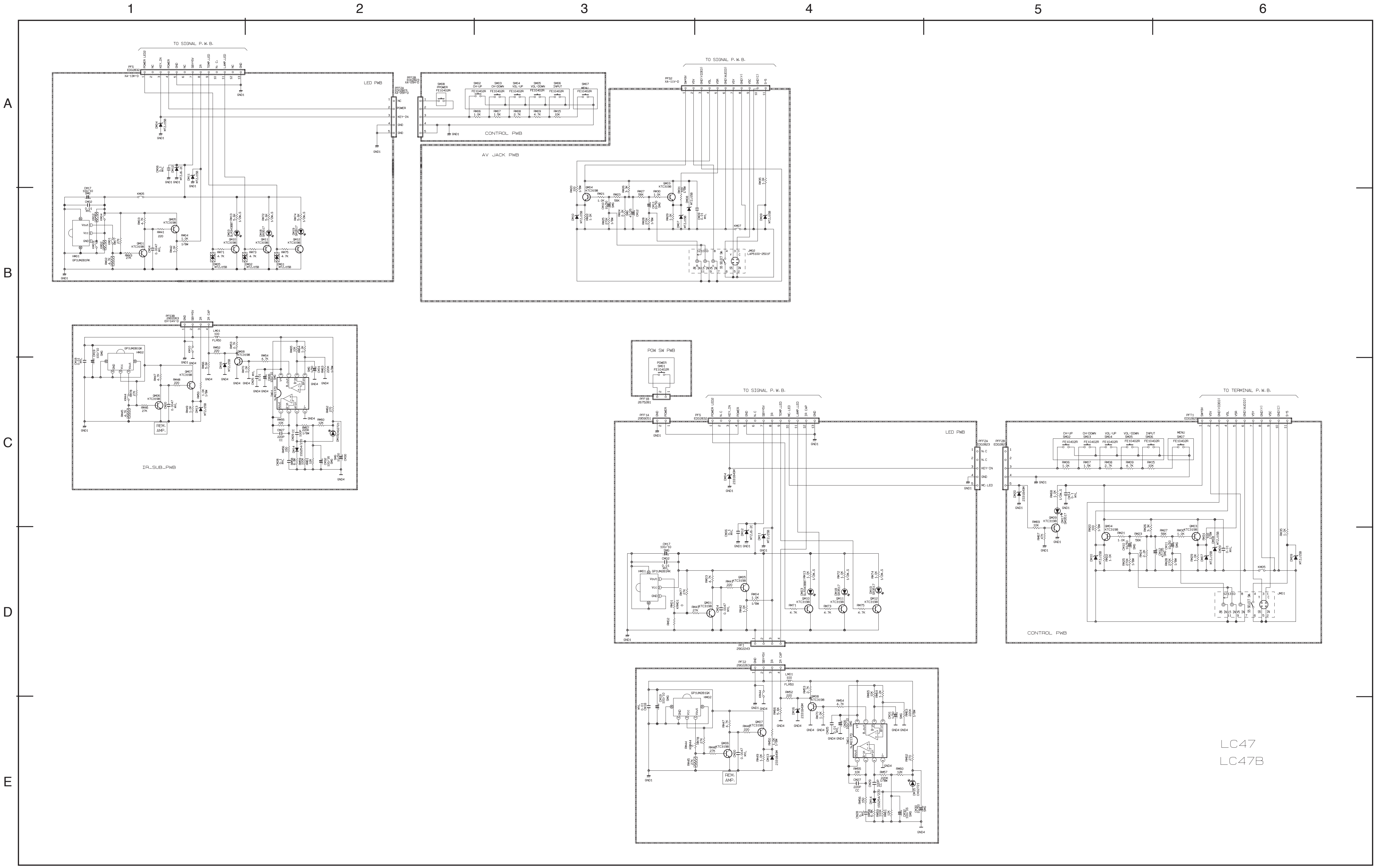
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
Z202
Z203
L9L2
10m
TLF-20
Z201
Z204
PPDE
VH-04V-D(#24NC)
From Signal Power
Z109
NC
Z110
NC
F9L1
6A125V
K9F1
K9L2
Z106
Z107
TLF-35B
7500
L9L1
Z105
K9L1
Z108
K9L3
K9L4
K9L7
PPL
VH-03V-D(#2NC)
To Lamp Ballast
Z111
NC
Z112
K9L5
C9L3
680/200
MXC
C9L1
4700P
CS
Z101
Z103
Z102
D9L1
D3SBA60
Z104
K9L8
R9L2
560K
(RK)1/2W
C9L4
680/200
MXC
K9L6
C9L2
4700P
CS
GND1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

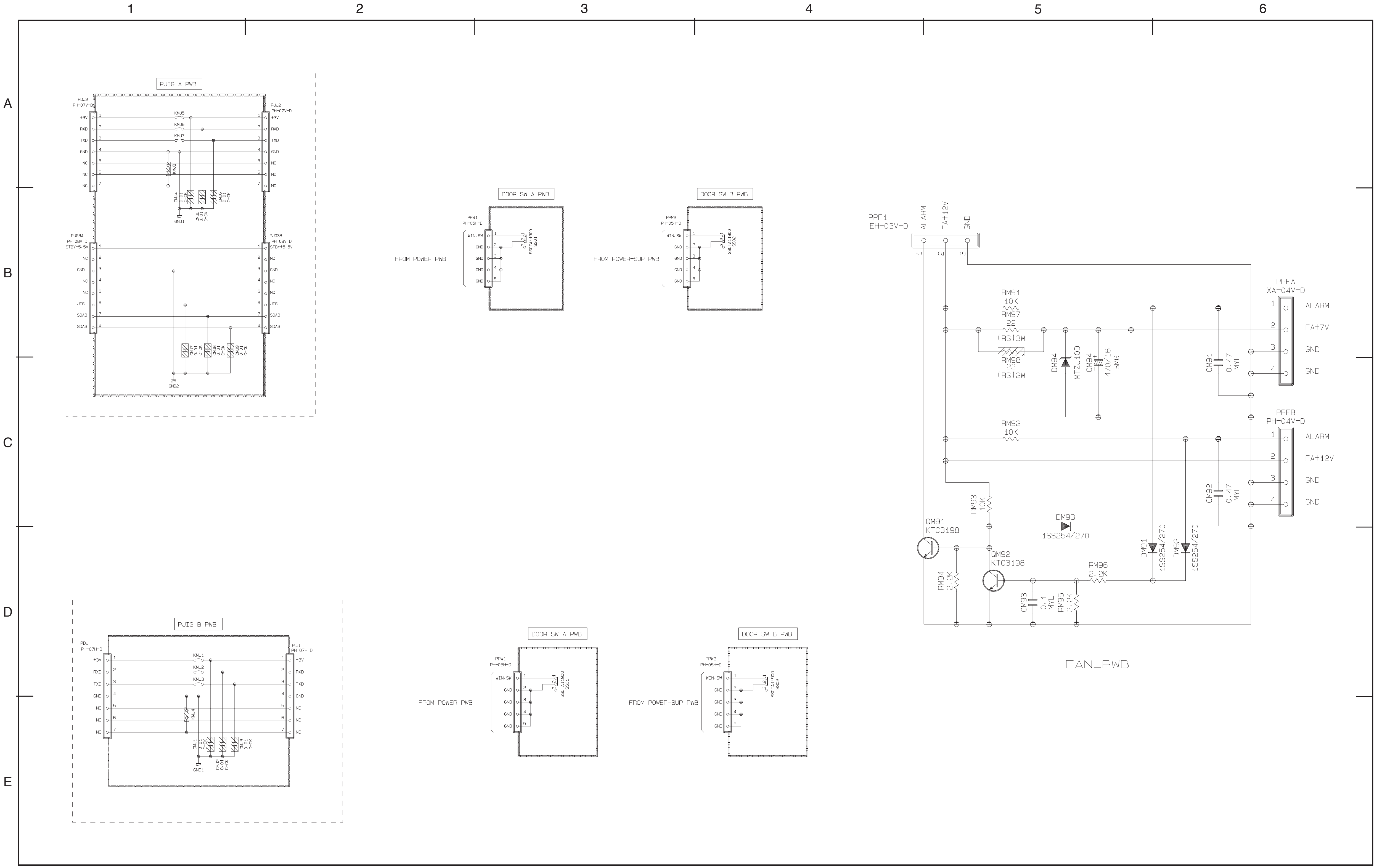
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
TO SIGNAL P.W.B.
LED PWB
CONTROL PWB
AV JACK PWB
TO SIGNAL P.W.B.
IR_SUB_PWB
REM. AMP.
POW SW PWB
TO SIGNAL P.W.B.
LED PWB
TO TERMINAL P.W.B.
CONTROL PWB
REM. AMP.
LC47
LC47B

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

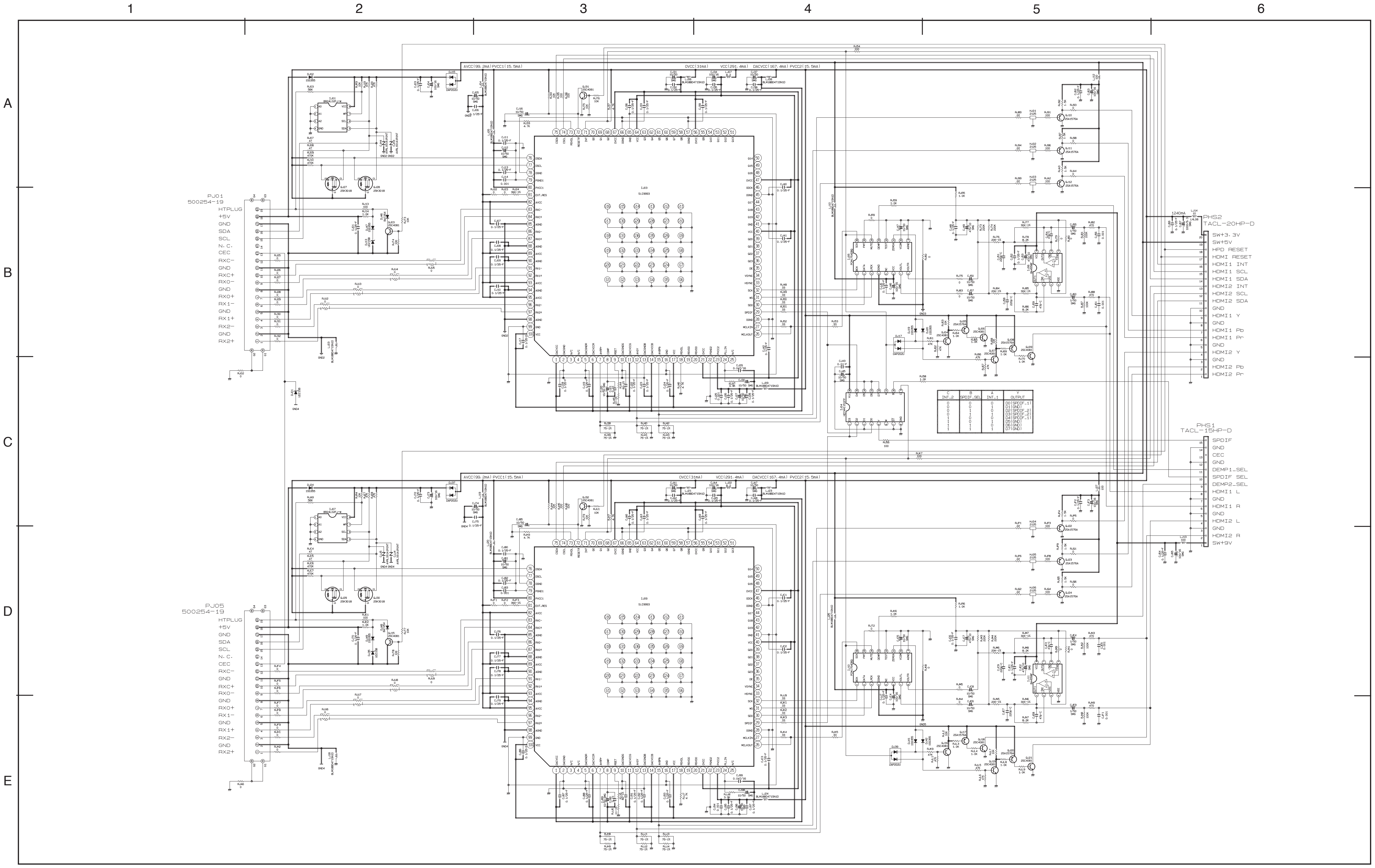
BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
PJIG A PWB
PDJ2
PH-07V-D
+3V
RXD
TXD
GND
NC
NC
NC
KMJ5
KMJ6
KMJ7
KMJ8
PJJ2
PH-07V-D
CMJ4 0.01 C-CK
CMJ5 0.01 C-CK
CMJ6 0.01 C-CK
GND1
PJG3A
PH-08V-D
STBY+5.5V
NC
GND
NC
NC
JIG
SDA3
SDA3
PJG3B
PH-08V-D
CMJ7 0.01 C-CK
CMJ8 0.01 C-CK
CMJ9 0.01 C-CK
GND2
DOOR SW A PWB
PPW1
PH-05H-D
WIN.SW
GND
SSCTA11900
SS01
FROM POWER PWB
DOOR SW B PWB
PPW2
PH-05H-D
SS02
FROM POWER-SUP PWB
PPF1
EH-03V-D
ALARM
FA+12V
GND
RM91 10K
RM97 22 (RS)3W
RM98 22 (RS)2W
DM94 MTZJ10D
CM94 470/16 SMG
CM91 0.47 MYL
PPFA
XA-04V-D
ALARM
FA+7V
GND
GND
RM92 10K
PPFB
PH-04V-D
ALARM
FA+12V
GND
GND
CM92 0.47 MYL
RM93 10K
DM93 1SS254/270
QM91 KTC3198
QM92 KTC3198
RM94 2.2K
RM96 2.2K
CM93 0.1 MYL
RM95 2.2K
DM91 1SS254/270
DM92 1SS254/270
FAN_PWB
PJIG B PWB
PDJ
PH-07H-D
KMJ1
KMJ2
KMJ3
KMJ4
PJJ
PH-07H-D
CMJ1 0.01 C-CK
CMJ2 0.01 C-CK
CMJ3 0.01 C-CK
GND1

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
PJ01
500254-19
HTPLUG
+5V
GND
SDA
SCL
N.C.
CEC
RXC-
GND
RXC+
RX0-
GND
RX0+
RX1-
GND
RX1+
RX2-
GND
RX2+
PJ05
500254-19
PHS2
TACL-20HP-D
SW+3.3V
SW+5V
HPD RESET
HDMI RESET
HDMI1 INT
HDMI1 SCL
HDMI1 SDA
HDMI2 INT
HDMI2 SCL
HDMI2 SDA
GND
HDMI1 Y
GND
HDMI1 Pb
HDMI1 Pr
GND
HDMI2 Y
GND
HDMI2 Pb
HDMI2 Pr
PHS1
TACL-15HP-D
SPDIF
GND
CEC
GND
DEMP1_SEL
SPDIF SEL
DEMP2_SEL
HDMI1 L
GND
HDMI1 R
GND
HDMI2 L
GND
HDMI2 R
SW+9V
AVCC(99.2mA) PVCC1(15.5mA)
DVCC(31mA)
VCC(291.4mA)
DACVCC(167.4mA) PVCC2(15.5mA)
QJ04
2SC4081
QJ06
2SC4081
QJ07
2SC4081
QJ08
2SA1576A
QJ09
2SC4081
RJ58
1.0K
RJK7
100

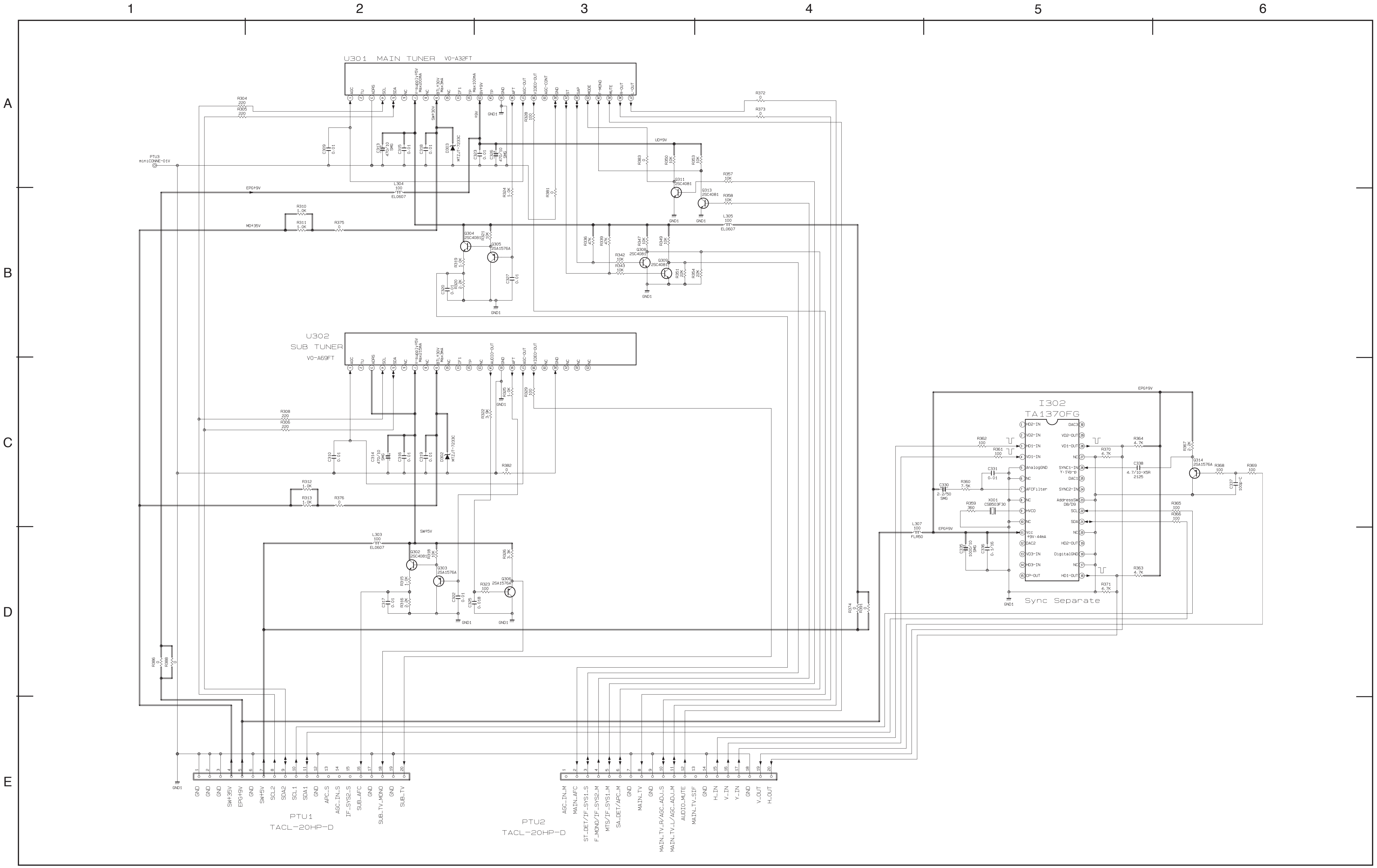
C INT_2	B SPDIF_SEL	A INT_1	Y OUTPUT
0	0	0	D0(SPDIF_1)
0	0	1	D1(GND)
0	1	0	D2(SPDIF_2)
0	1	1	D3(SPDIF_2)
1	0	0	D4(SPDIF_1)
1	0	1	D5(GND)
1	1	0	D6(GND)
1	1	1	D7(GND)

HDMI

- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM


1
2
3
4
5
6
A
B
C
D
E
U301 MAIN TUNER V0-A32FT
AGC
TU
ADRS
SCL
SDA
NC
V-supply+5V Max200mA
NC
BTL+30V Max3mA
NC
IF1
TP Max100mA
BV+9V
TP
GND
AFT
AGC-OUT
VIDEO-OUT
AGC-CONT
GND
ST
SAP
MODE
F-MONO
MUTE
R-OUT
L-OUT
R304 220
R305 220
R372 0
R373 0
SW+30V
+9V
GND1
R328 100
C309 0.01
C313 470/10 SMG
C315 0.01
C318 0.01
D303 MTZJT-7233C
C323 0.01
C326 470/10 SMG
UD+9V
R383 0
R350 10K
R353 10K
R357 10K
Q311 2SC4081
Q313 2SC4081
R358 10K
L305 100 EL0607
PTU3 miniCONNE-01V
EPG+9V
L304 100 EL0607
R324 1.0K
R381 0
R310 1.0K
R311 1.0K
R375 0
MD+35V
Q304 2SC4081
R321 10K
Q305 2SA1576A
R319 1.0K
R320 2.2K
C320 0.01
C327 0.01
R336 47K
R339 47K
R347 10K
R349 10K
Q308 2SC4081
Q309 2SC4081
R342 10K
R343 10K
R351 22K
R354 22K
U302 SUB TUNER V0-A69FT
AGC
TU
ADRS
SCL
SDA
NC
V-supply+5V Max215mA
NC
BTL+30V Max3mA
NC
IF1
TP
NC
AUDIO-OUT
GND
AFT
AGC-OUT
VIDEO-OUT
NC
GND
NC
NC
NC
R325 1.0K
R329 100
R322 3.9K
R308 220
R306 220
C310 0.01
C314 470/10 SMG
C316 0.01
C319 0.01
D302 MTZJT-7233C
R382 0
R312 1.0K
R313 1.0K
R376 0
SW+5V
L303 100 EL0607
Q302 2SC4081
R318 10K
Q303 2SA1576A
R326 3.3K
R315 1.0K
R316 2.2K
C317 0.01
C322 0.01
R323 100
Q306 2SA1576A
C325 0.018
R386 0
R388 0
R374 0
R391 0
I302 TA1370FG
HD2-IN
VD2-IN
HD1-IN
VD1-IN
AnalogGND
NC
AFCFilter
NC
HVCO
NC
Vcc +9V:44mA
DAC2
VD3-IN
HD3-IN
CP-OUT
DAC3
VD2-OUT
VD1-OUT
NC
SYNC1-IN Y:1Vp-p
DAC1
SYNC2-IN
AddressSW D8/D9
SCL
SDA
NC
HD2-OUT
DigitalGND
NC
HD1-OUT
R362 100
R361 100
C331 0.01
C330 2.2/50 SMG
R360 7.5K
R359 360
X001 CSB503F30
L307 100 FLR50
C335 1000/10 SMG
C336 0.1/16
R364 4.7K
R370 4.7K
C338 4.7/10-X5R 2125
R367 2.2K
Q314 2SA1576A
R368 100
R369 100
C337 100p-C
R365 100
R366 100
R363 4.7K
R371 4.7K
Sync Separate
GND
GND
GND
SW+35V
EPG+9V
GND
SW+5V
SCL2
SDA2
SCL1
SDA1
GND
APC_S
AGC_IN_S
IF_SYS2_S
SUB_AFC
GND
SUB_TV_MONO
GND
SUB_TV
PTU1
TACL-20HP-D
AGC_IN_M
MAIN_AFC
ST_DET/IF_SYS1_S
F_MONO/IF_SYS2_M
MTS/IF_SYS1_M
SA_DET/APC_M
GND
MAIN_TV
GND
MAIN_TV_R/AGC_ADJ_S
MAIN_TV_L/AGC_ADJ_M
AUDIO_MUTE
MAIN_TV_SIF
GND
H_IN
V_IN
Y_IN
GND
V_OUT
H_OUT
PTU2
TACL-20HP-D

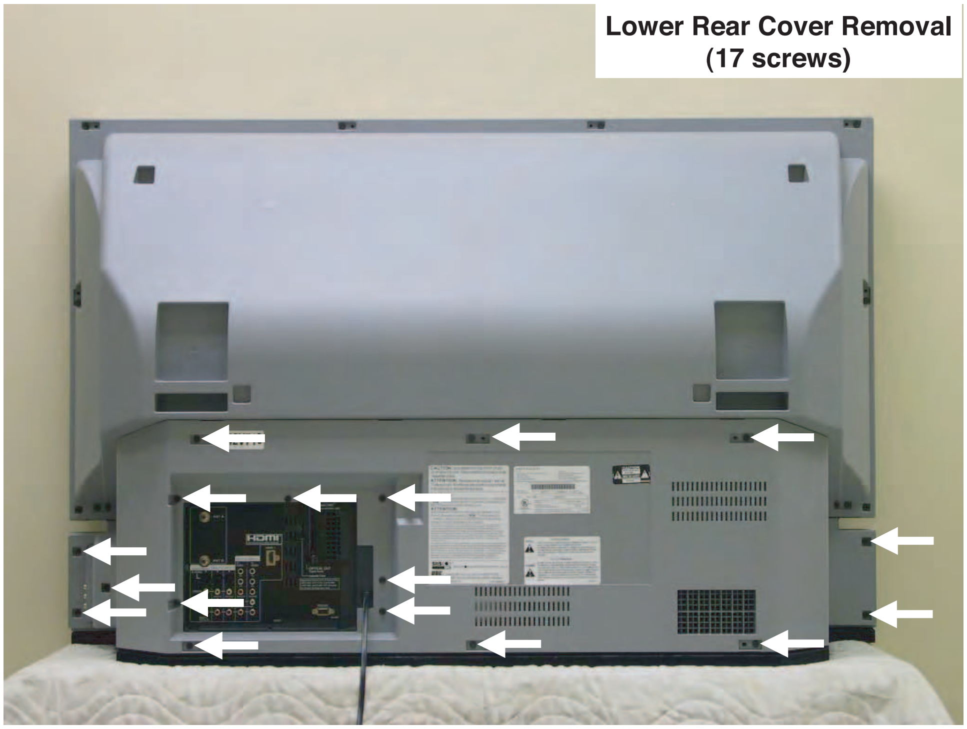
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Tuner

LC47 DISASSEMBLY

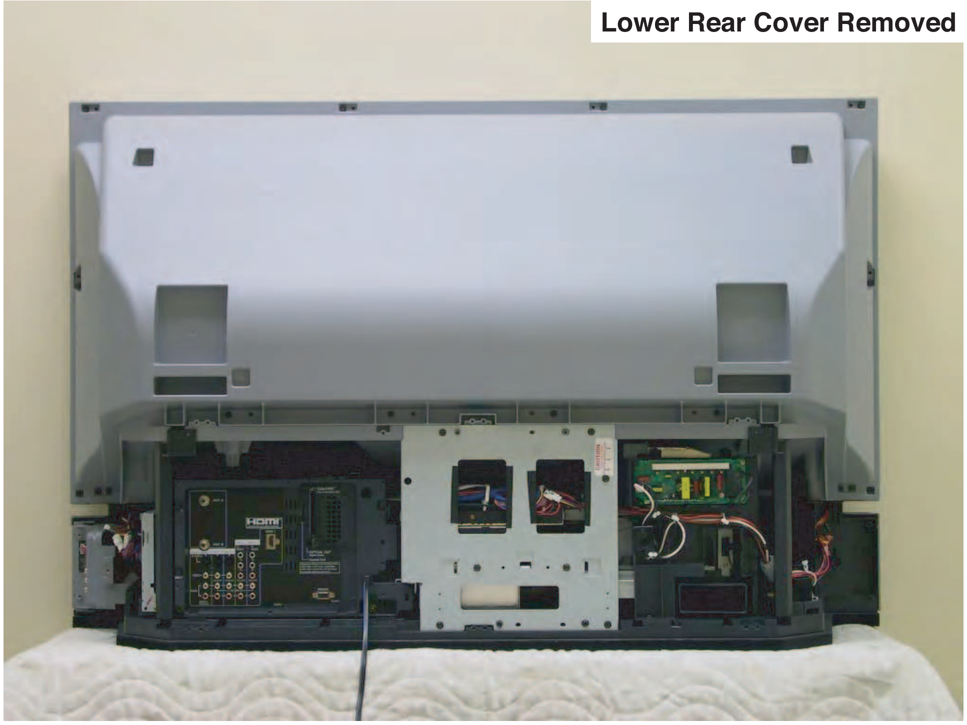
PROCEDURES

- Chassis Assembly
- Optical Engine Assembly
  - Rear Support Bracket
  - Lamp Ballast PWB
  - Optical Engine
- Top Assembly

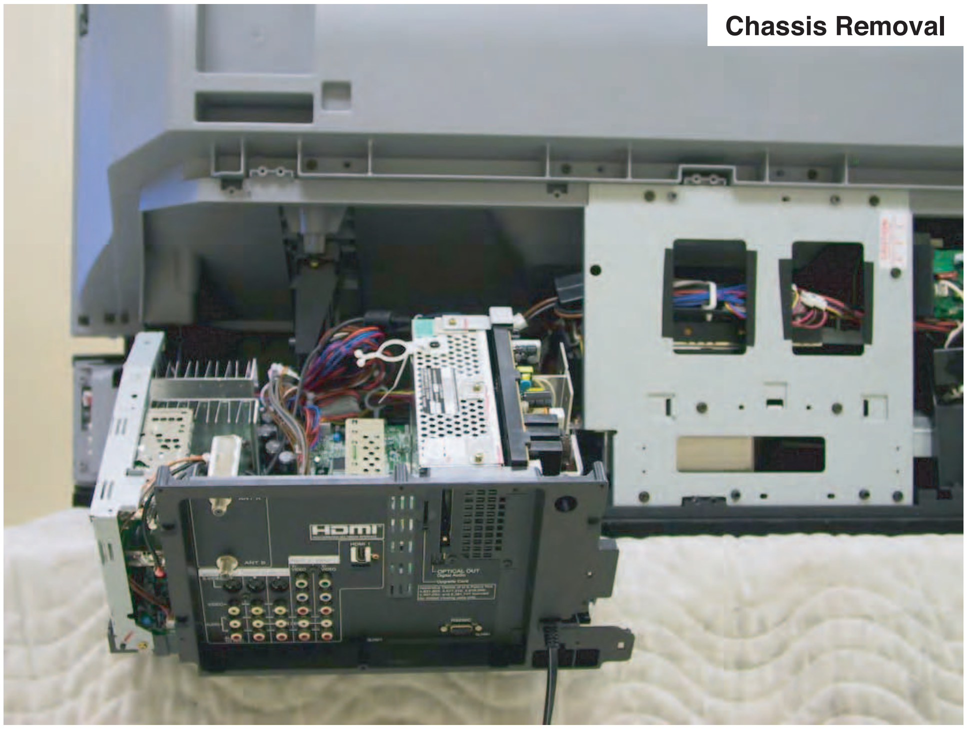


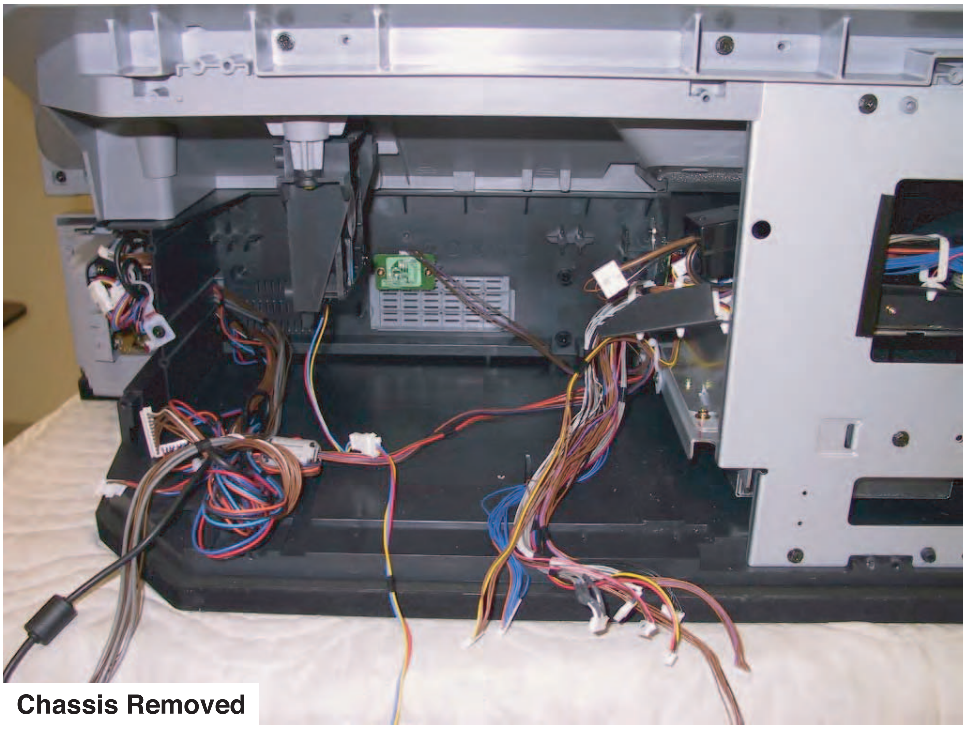
Lower Rear Cover Removal
(17 screws)

Lower Rear Cover Removed

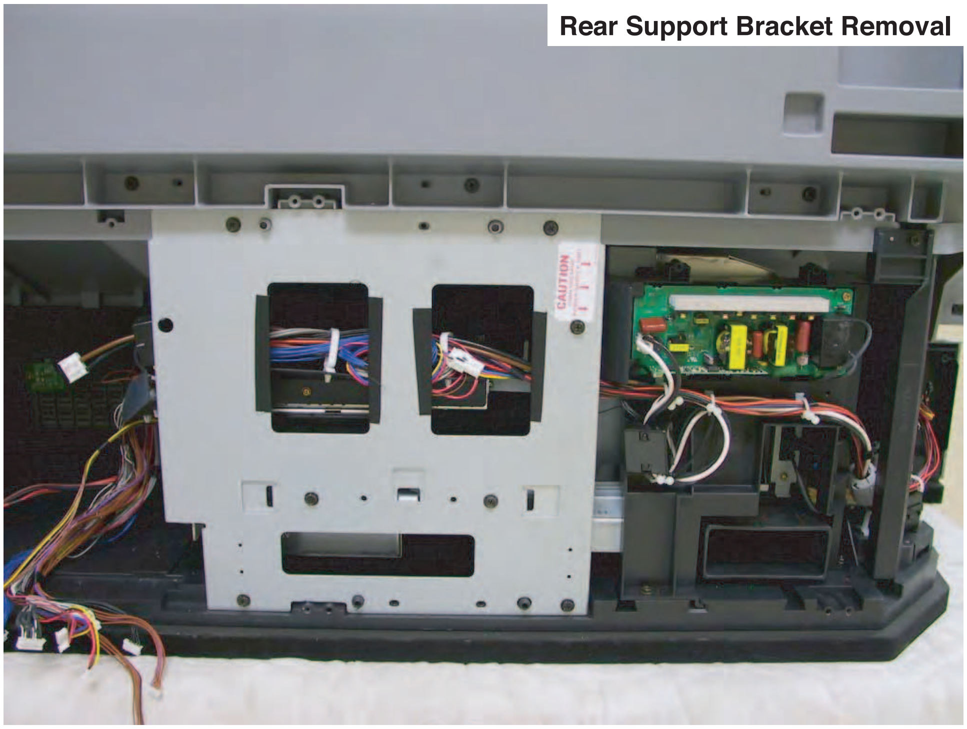


Chassis Removal

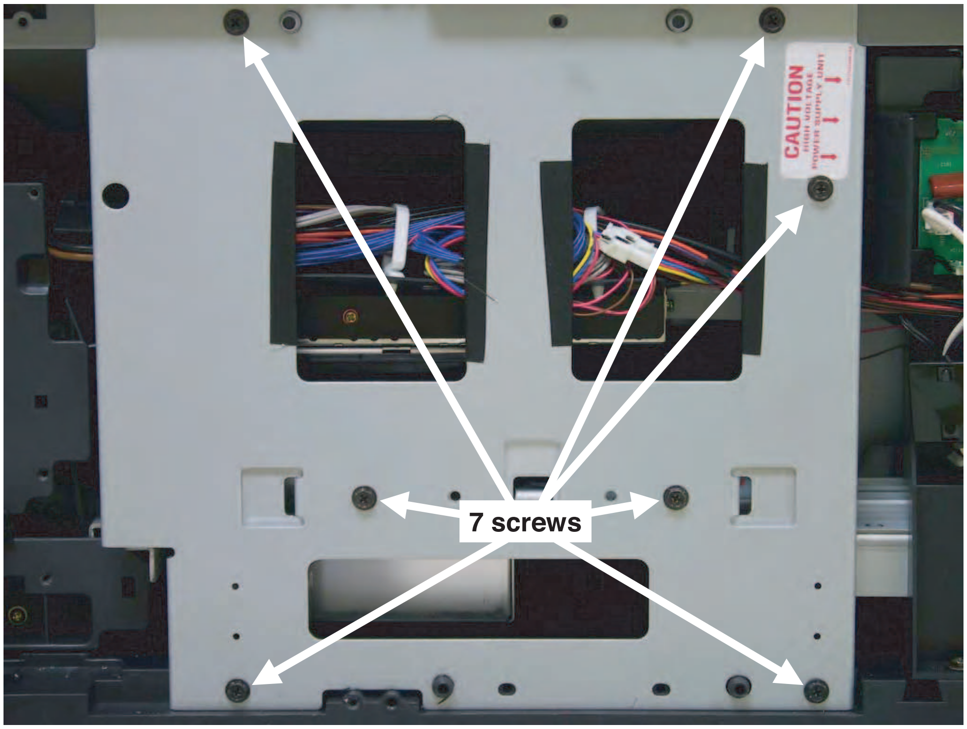




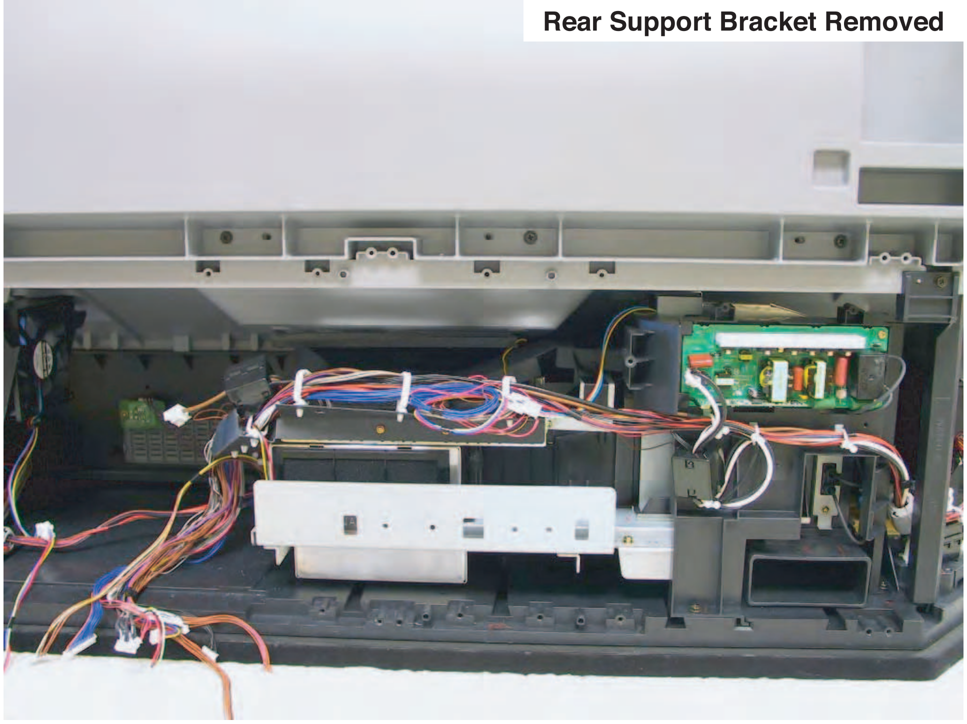
Chassis Removed



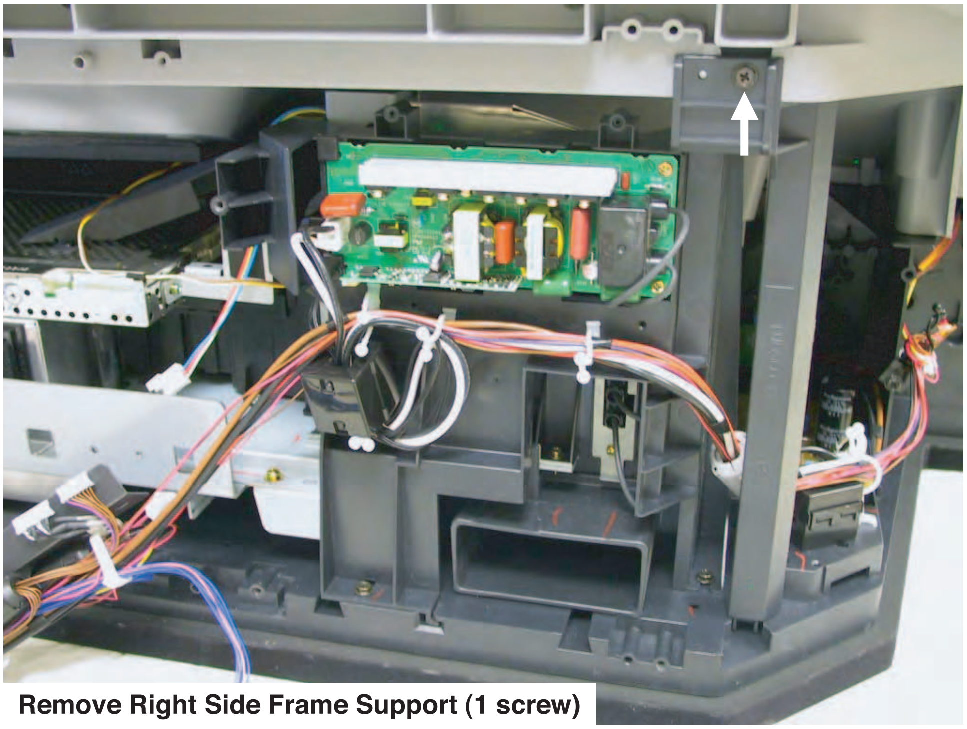
Rear Support Bracket Removal

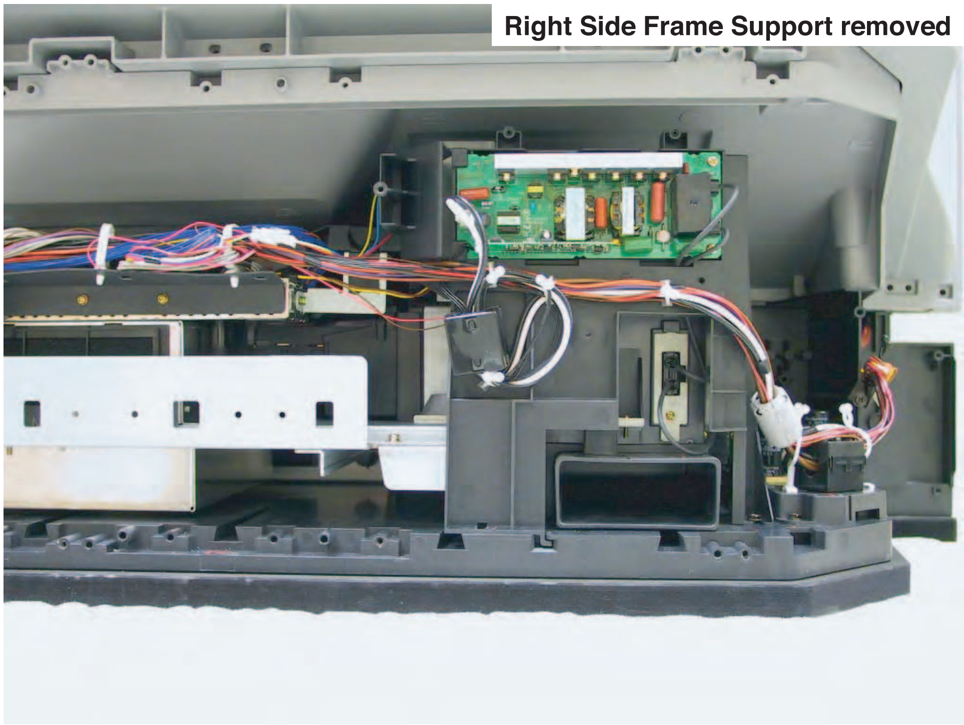

CAUTION
HIGH VOLTAGE
POWER SUPPLY UNIT

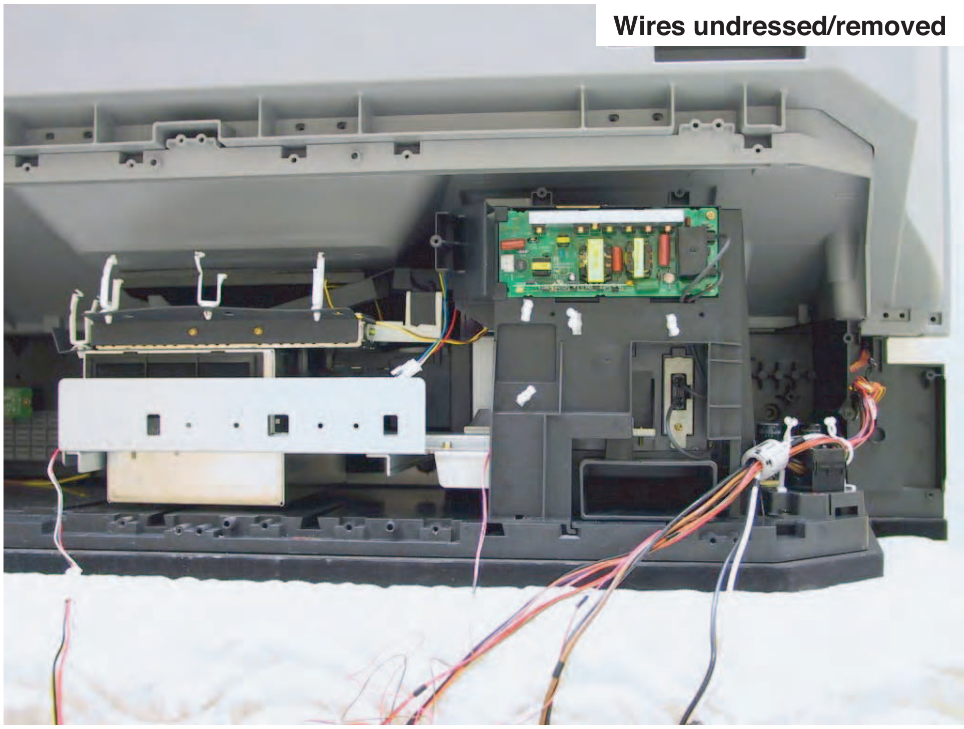
7 screws



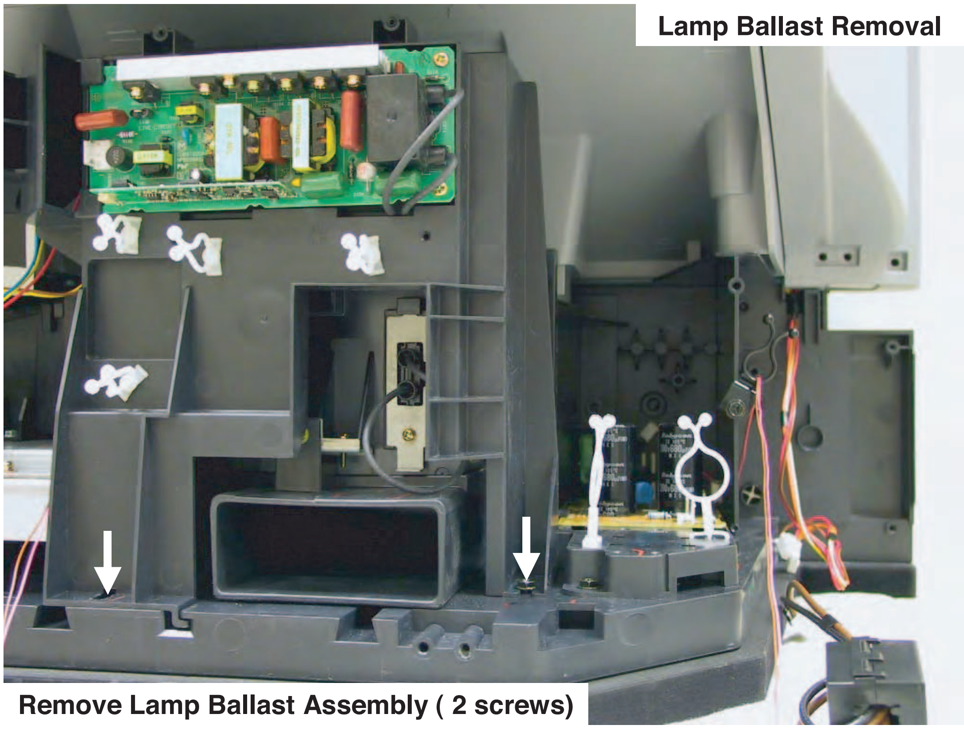
Rear Support Bracket Removed


Remove Right Side Frame Support (1 screw)


Right Side Frame Support removed



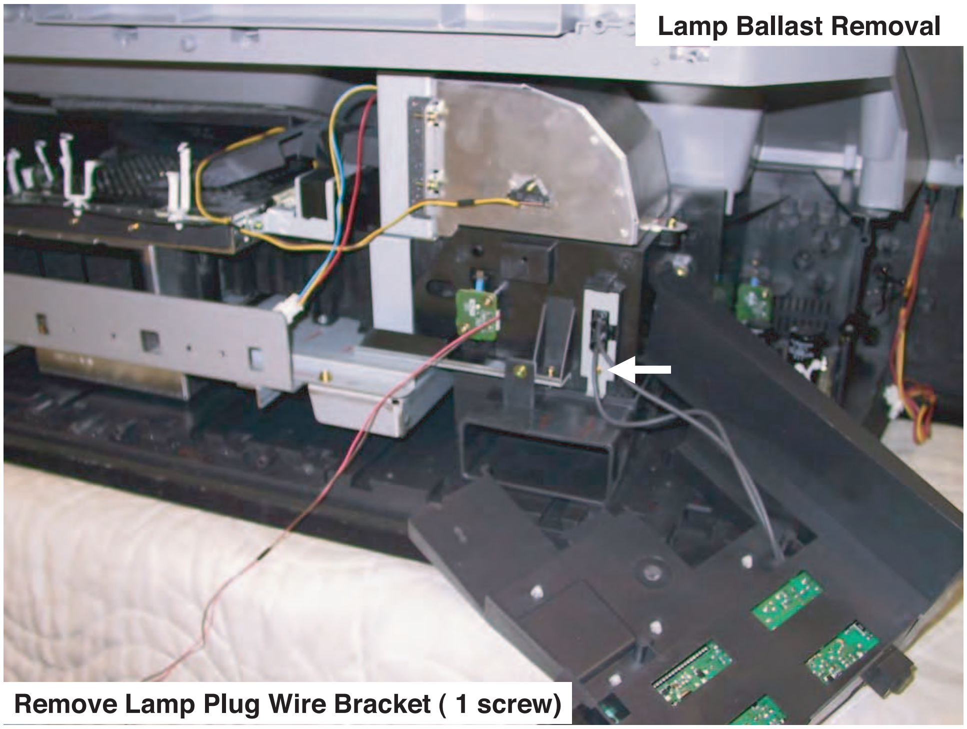
Wires undressed/removed



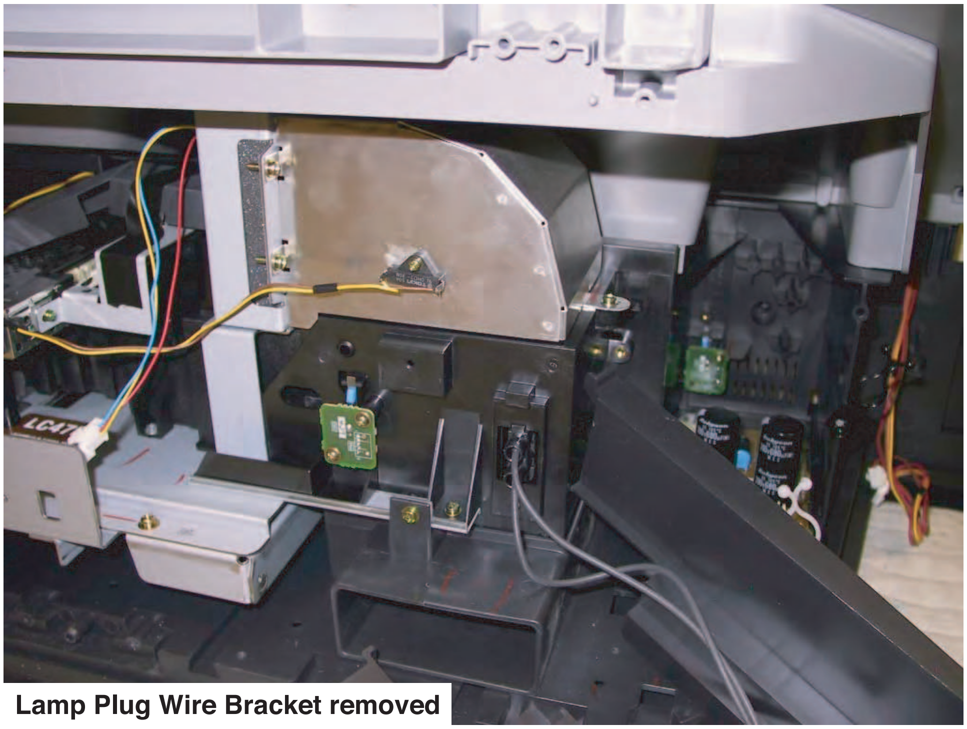
Lamp Ballast Removal

Remove Lamp Ballast Assembly (2 screws)

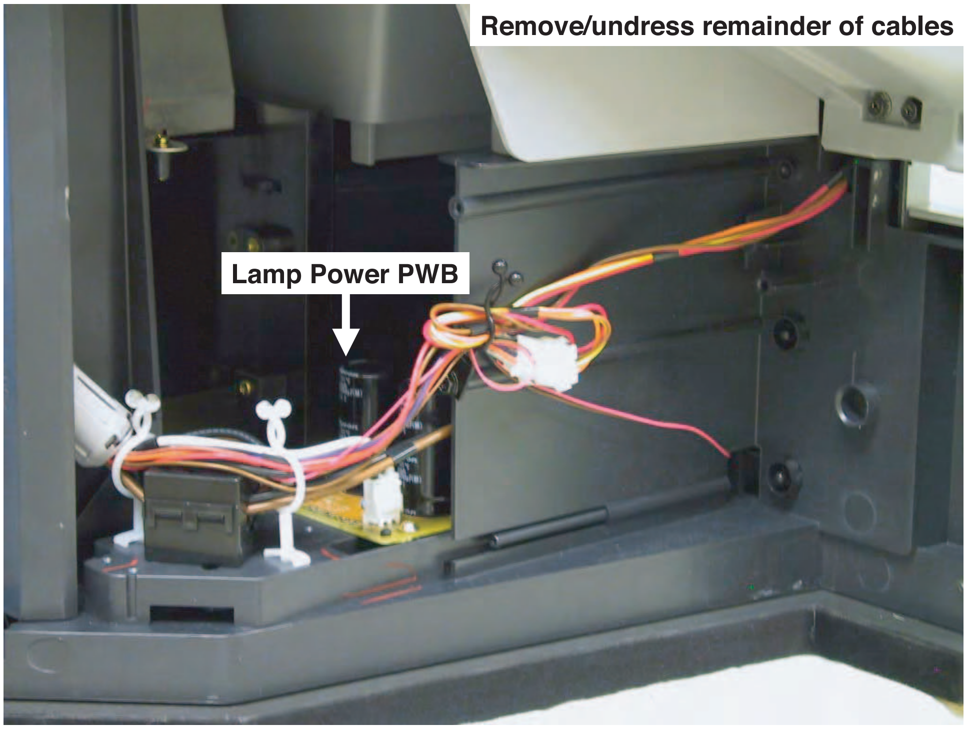
Lamp Ballast Removal

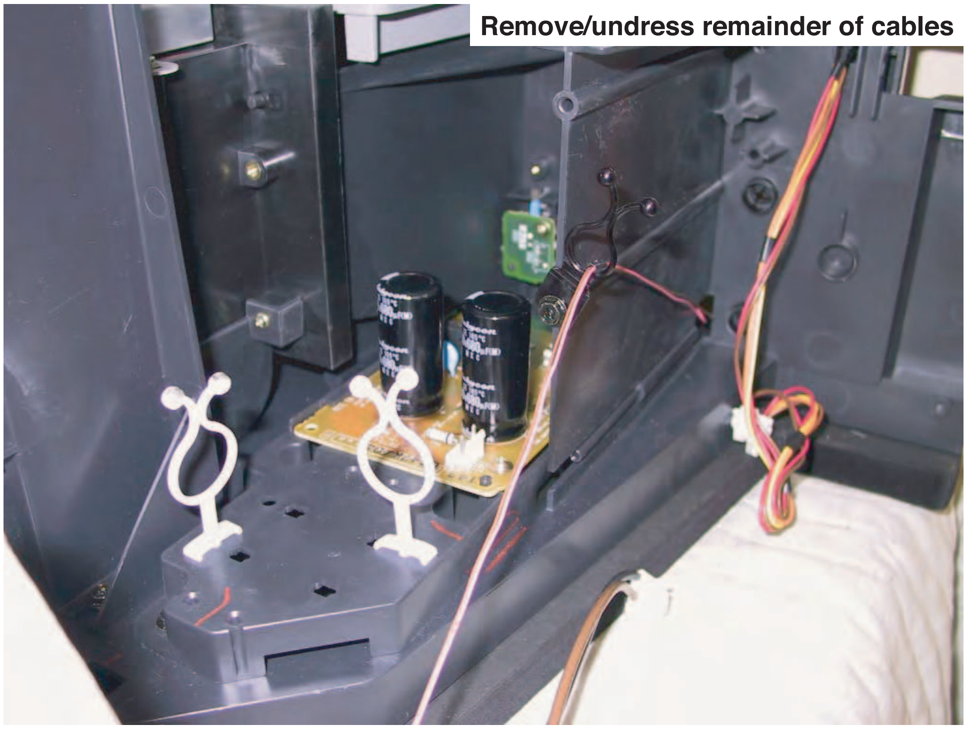


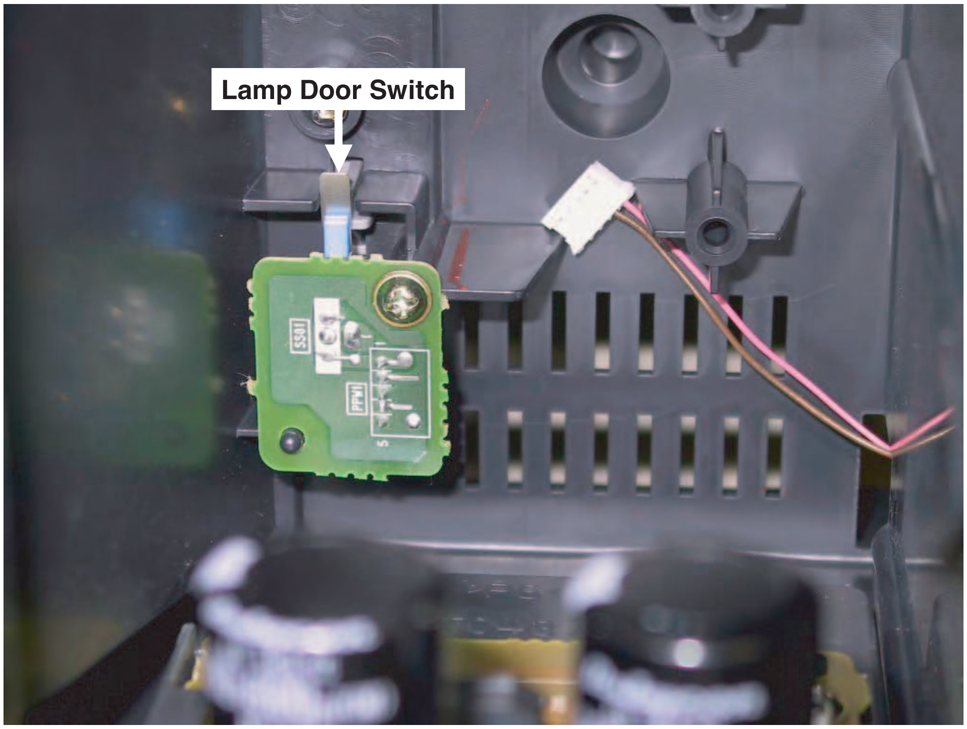
Remove Lamp Plug Wire Bracket (1 screw)



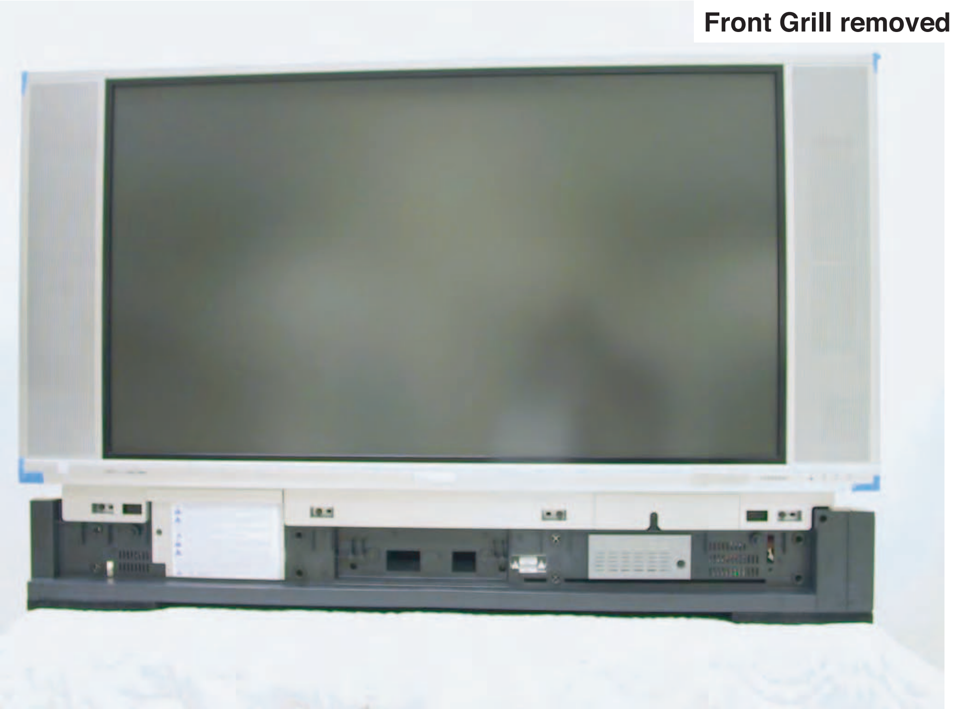
Lamp Plug Wire Bracket removed


Remove/undress remainder of cables
Lamp Power PWB

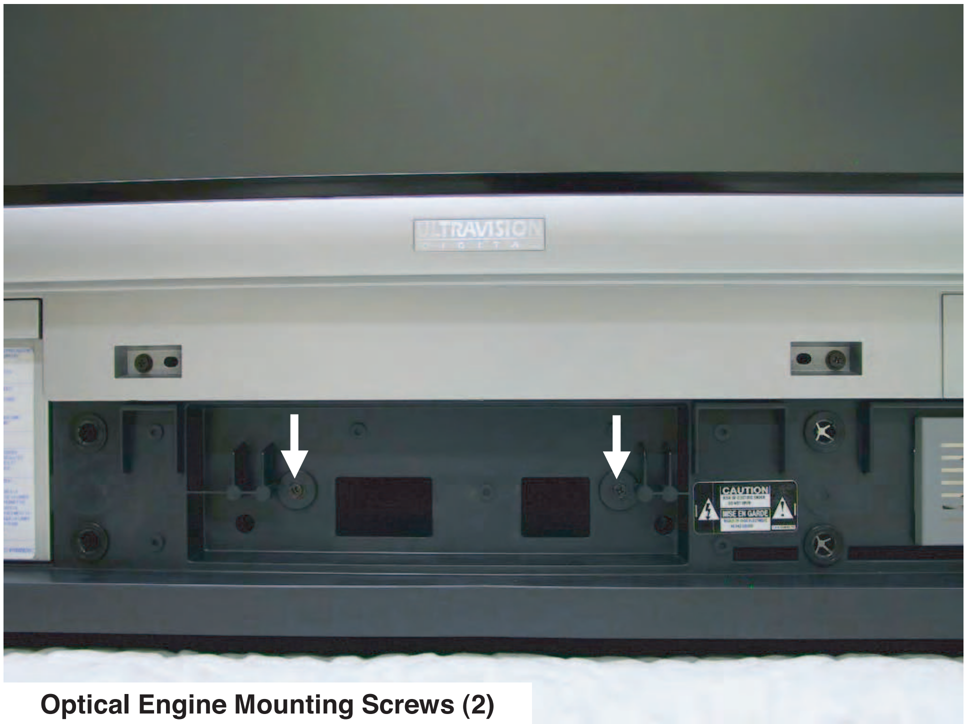

Remove/undress remainder of cables


Lamp Door Switch
S501
PPW1

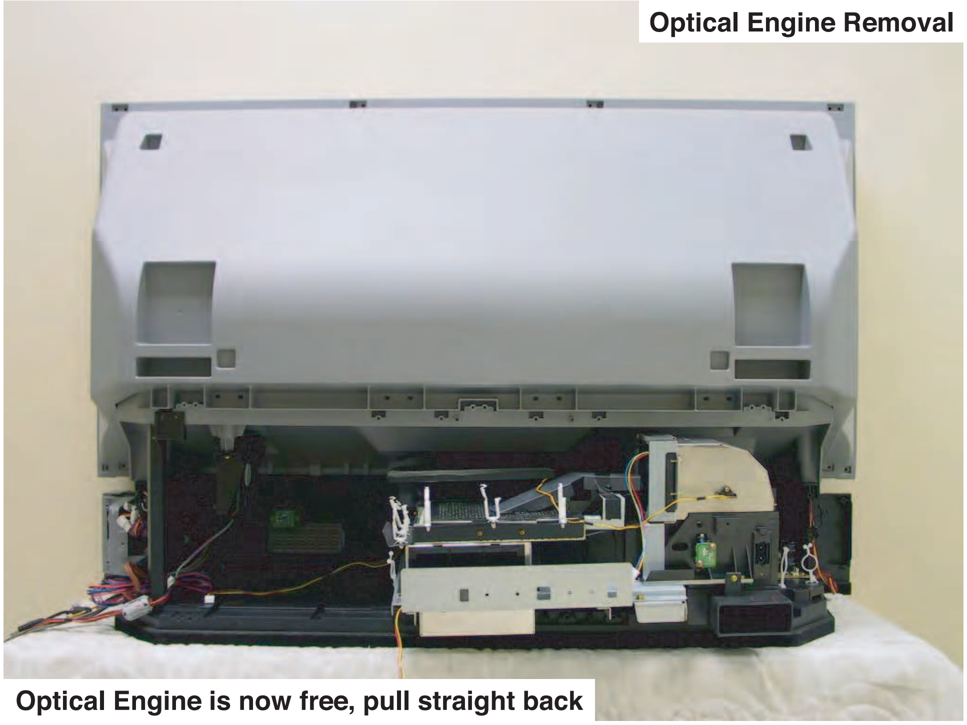
Front View



Front Grill removed

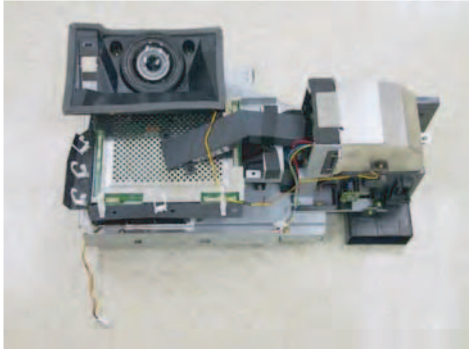

ULTRAVISION
DIGITAL
CAUTION
MISE EN GARDE

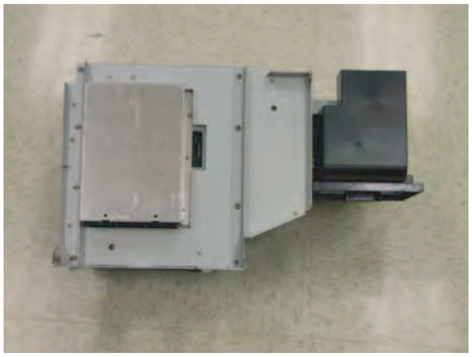
Optical Engine Mounting Screws (2)



Optical Engine Removal

Optical Engine is now free, pull straight back



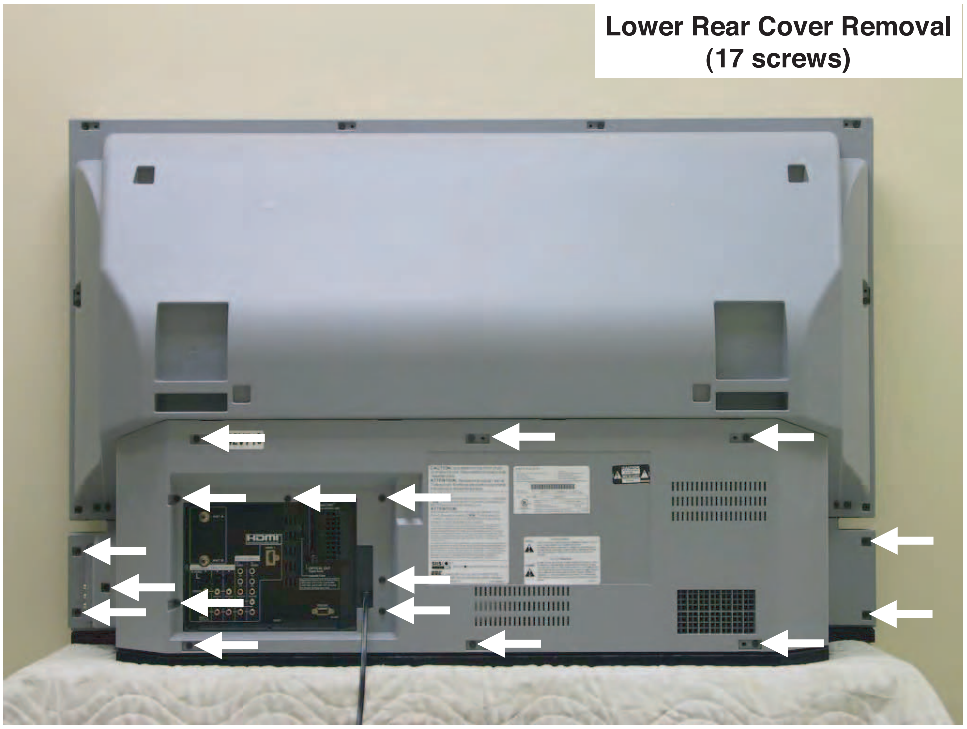


Re-assemble in reverse order

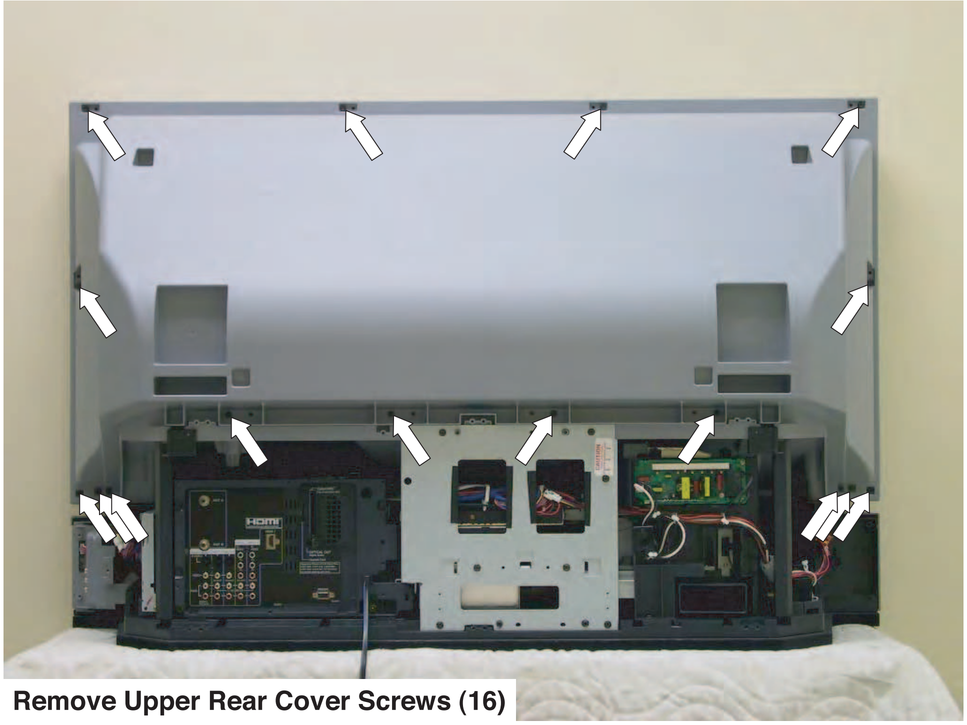
LC47 DISASSEMBLY

PROCEDURES

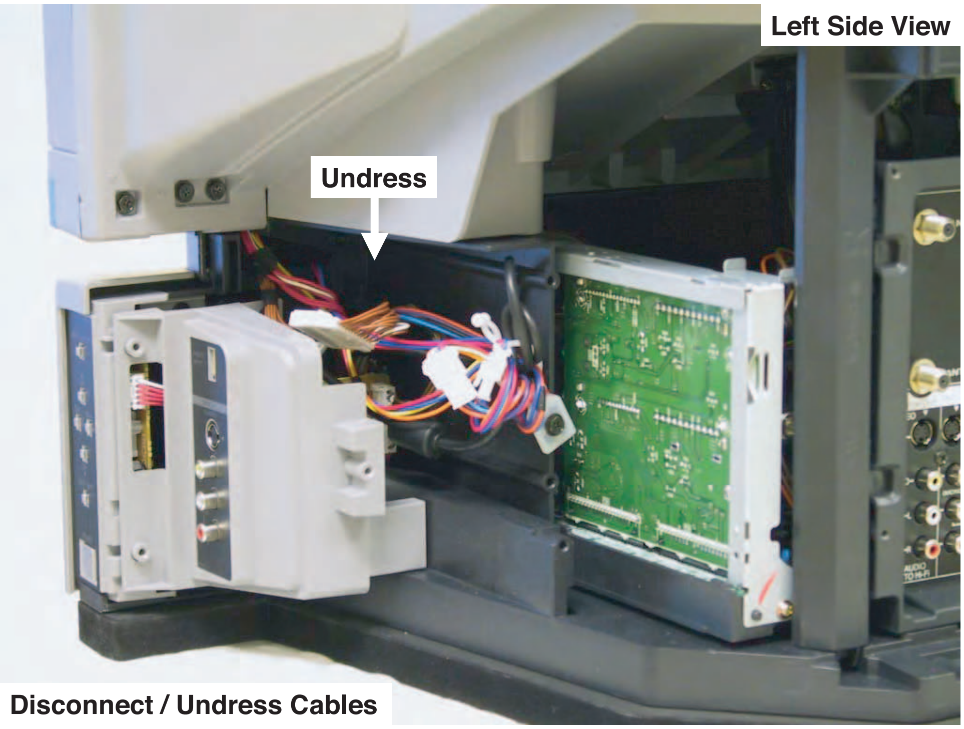
- Chassis Assembly
- Optical Engine Assembly
- Top Assembly
  - Upper Rear Cover Assembly
    - Mirror
    - Sub Woofers
  - Front Assembly
    - Main Speakers
    - LED PWB
    - Screen Assembly



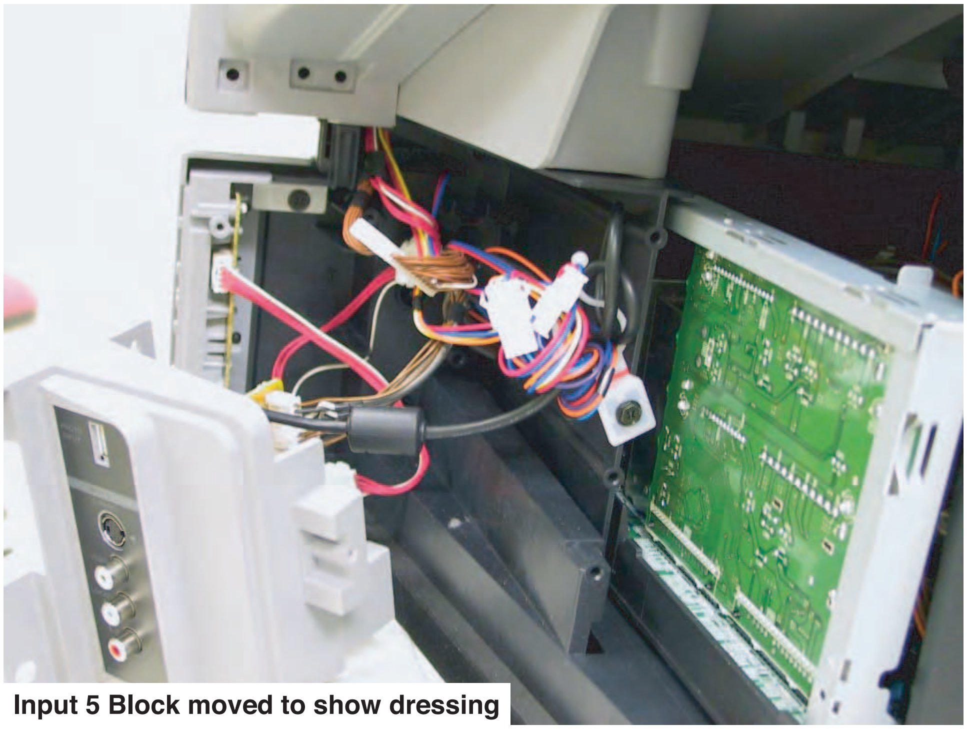
Lower Rear Cover Removal (17 screws)



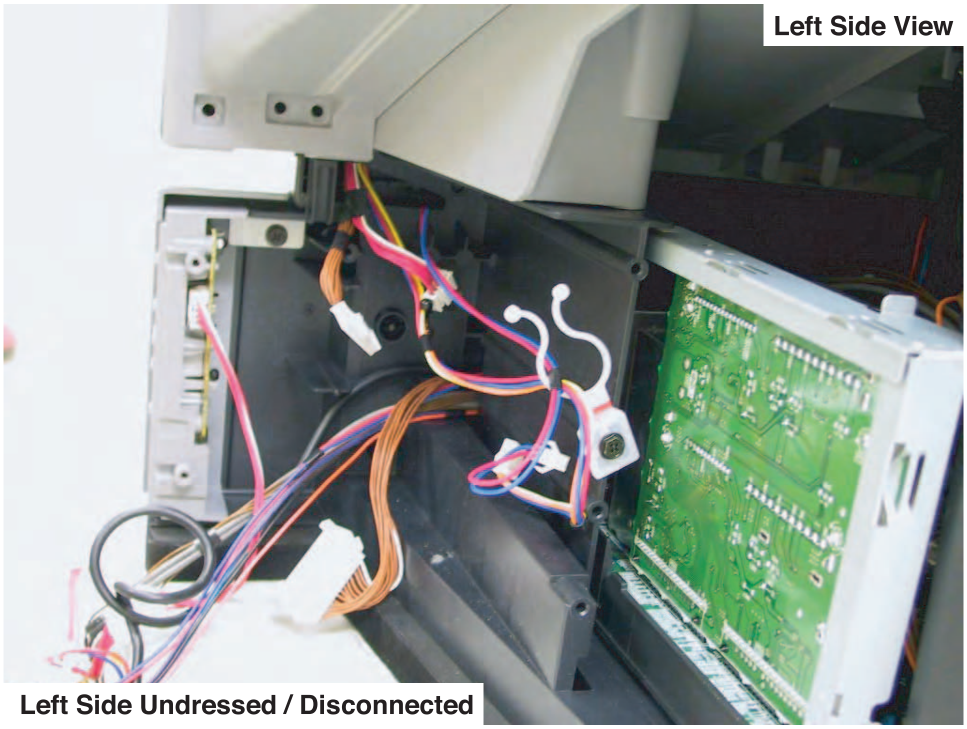
Remove Upper Rear Cover Screws (16)


Left Side View
Undress

Disconnect / Undress Cables

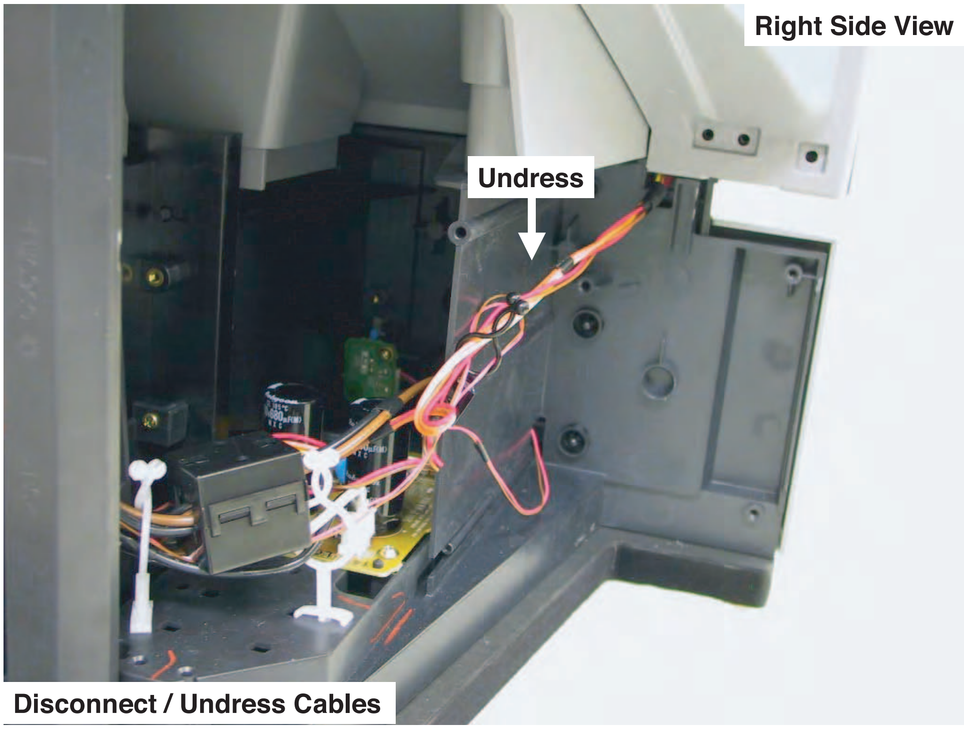


Input 5 Block moved to show dressing

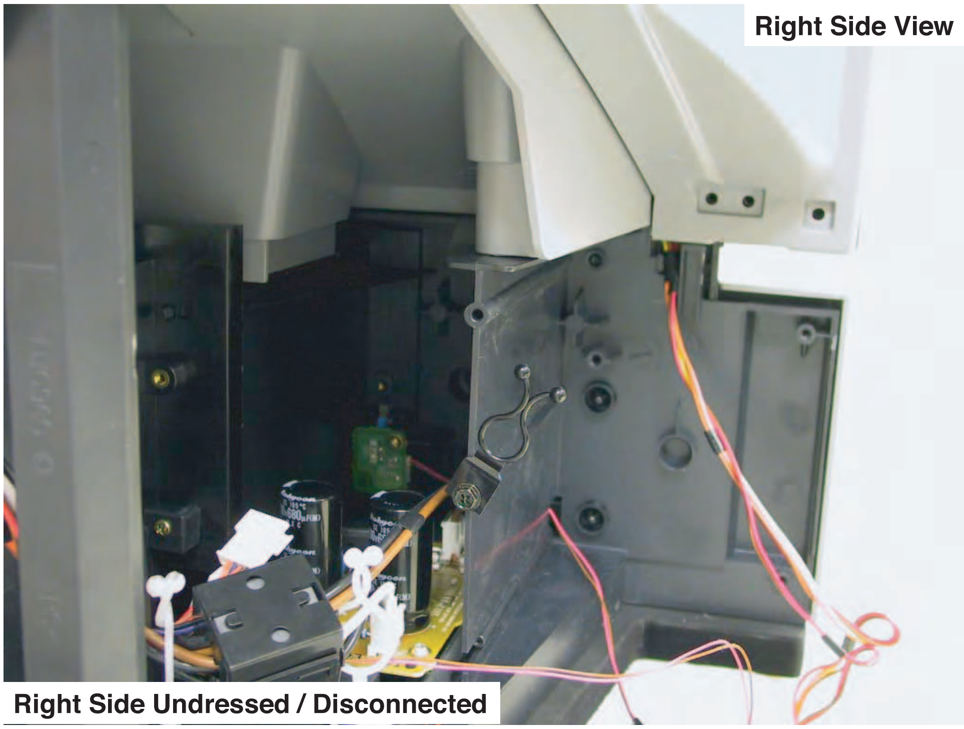


Left Side View

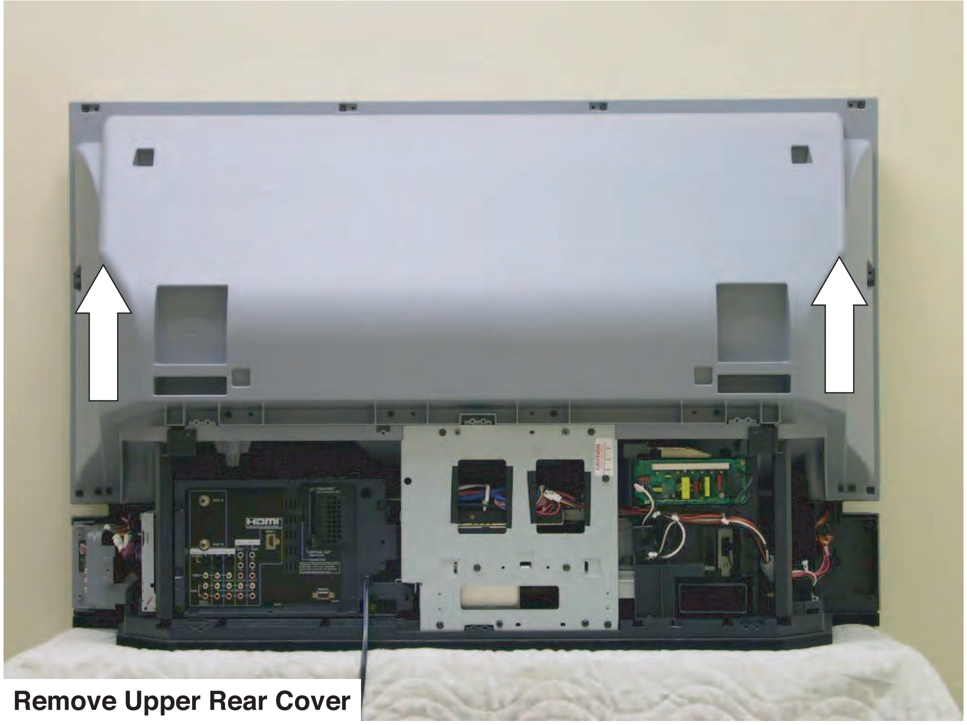
Left Side Undressed / Disconnected


Right Side View
Undress

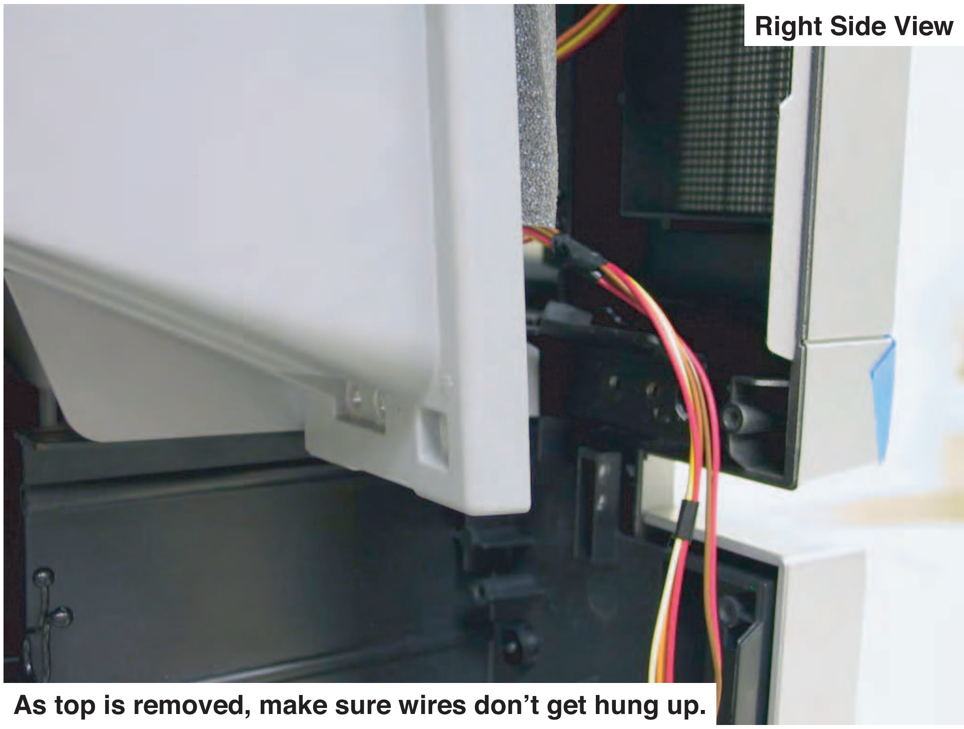
Disconnect / Undress Cables


Right Side View

Right Side Undressed / Disconnected

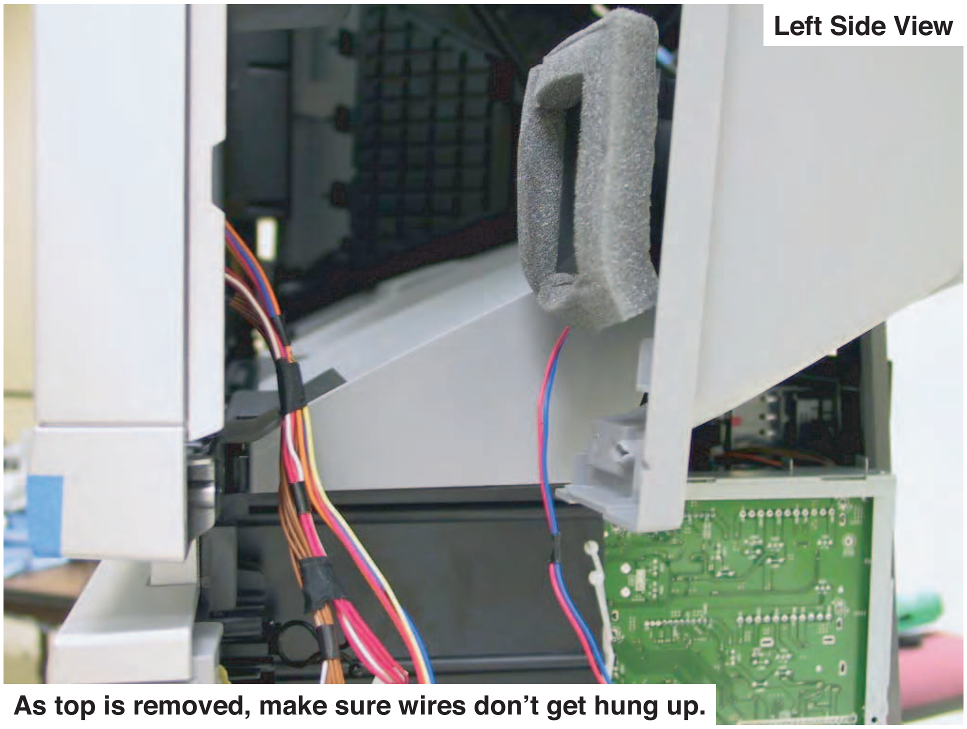


Remove Upper Rear Cover



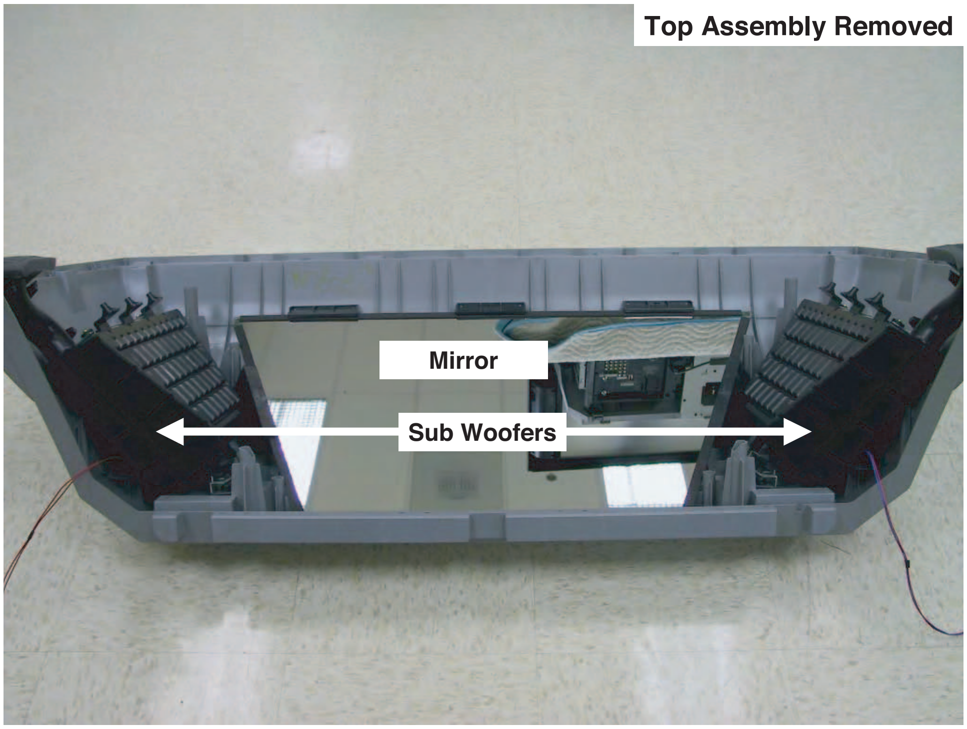
Right Side View

As top is removed, make sure wires don't get hung up.



Left Side View

As top is removed, make sure wires don’t get hung up.

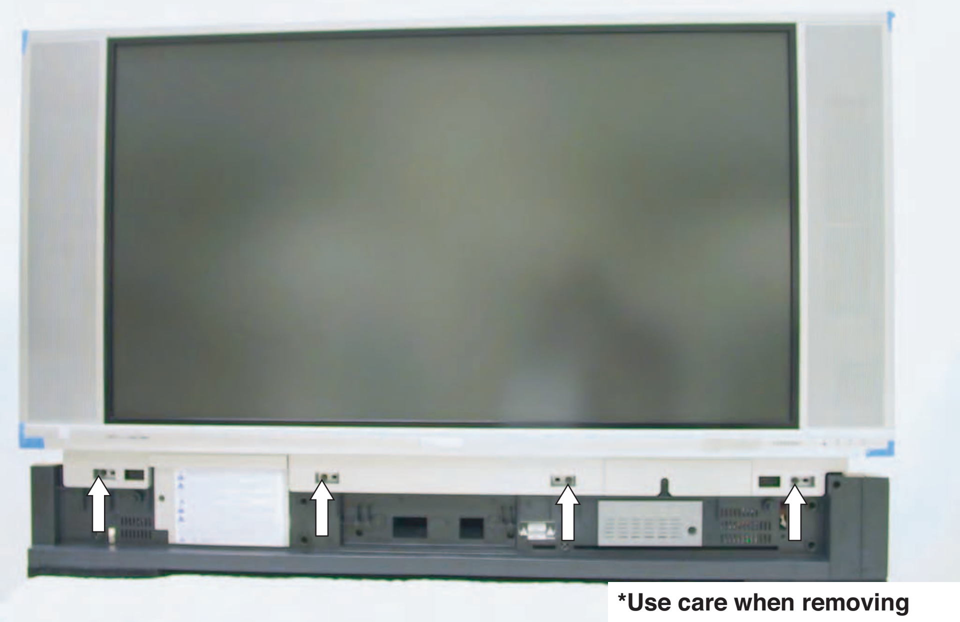


Top Assembly Removed

Mirror
Sub Woofers

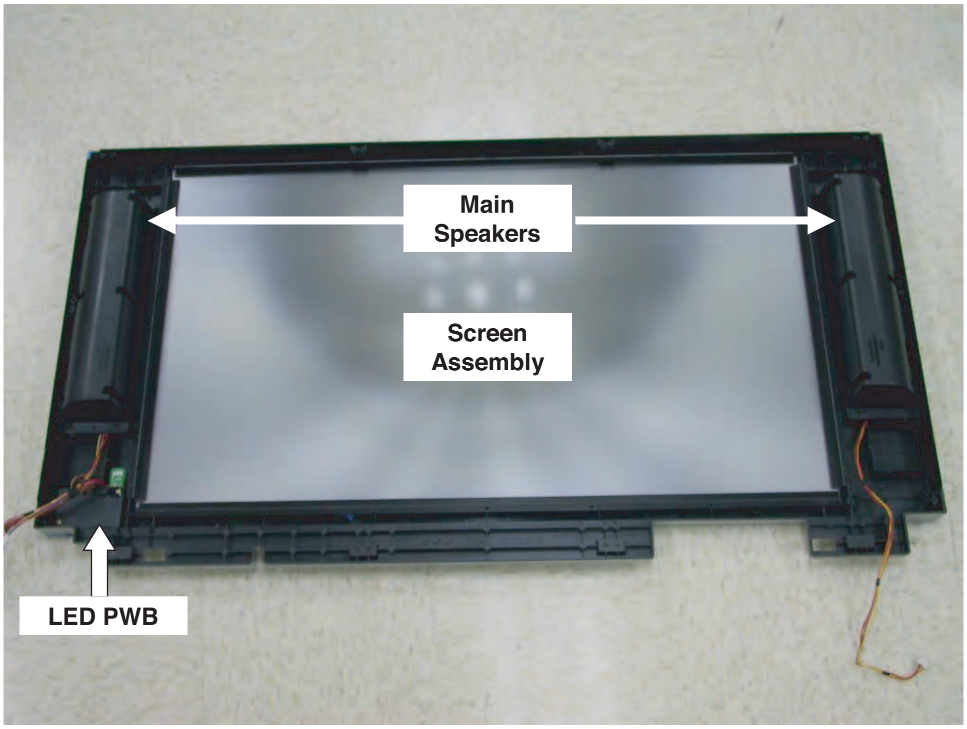
Front View

Front Grill removed



Remove* Frame Assembly (4 screws)

***Use care when removing the final screw, the frame will be able to fall.**

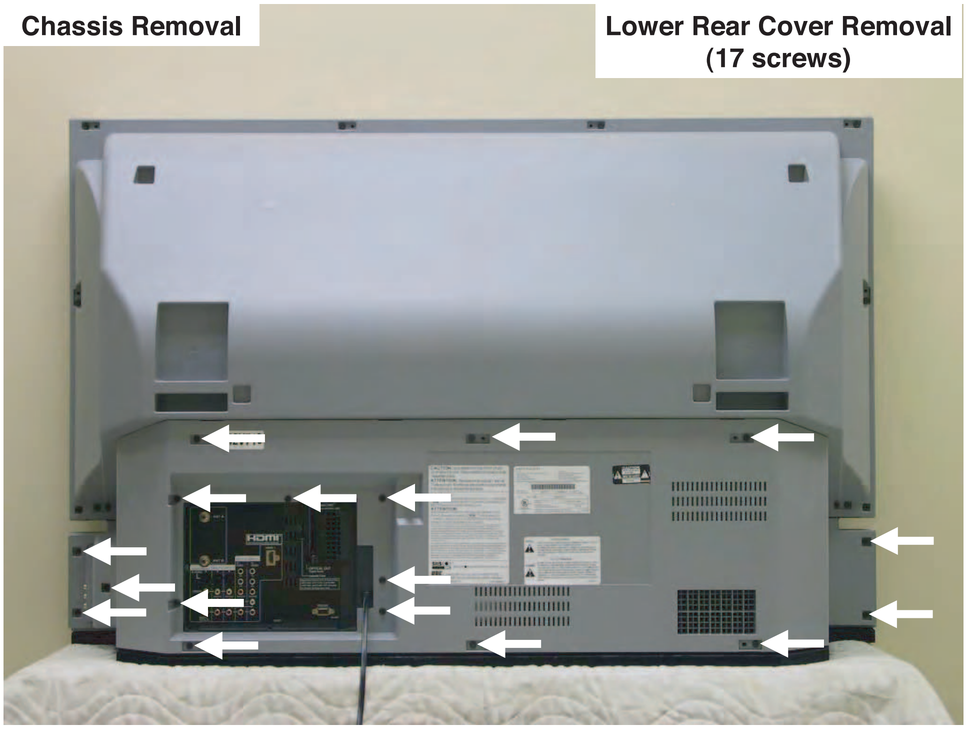

Main
Speakers
Screen
Assembly
LED PWB

Re-assemble in reverse order

LC47 DISASSEMBLY

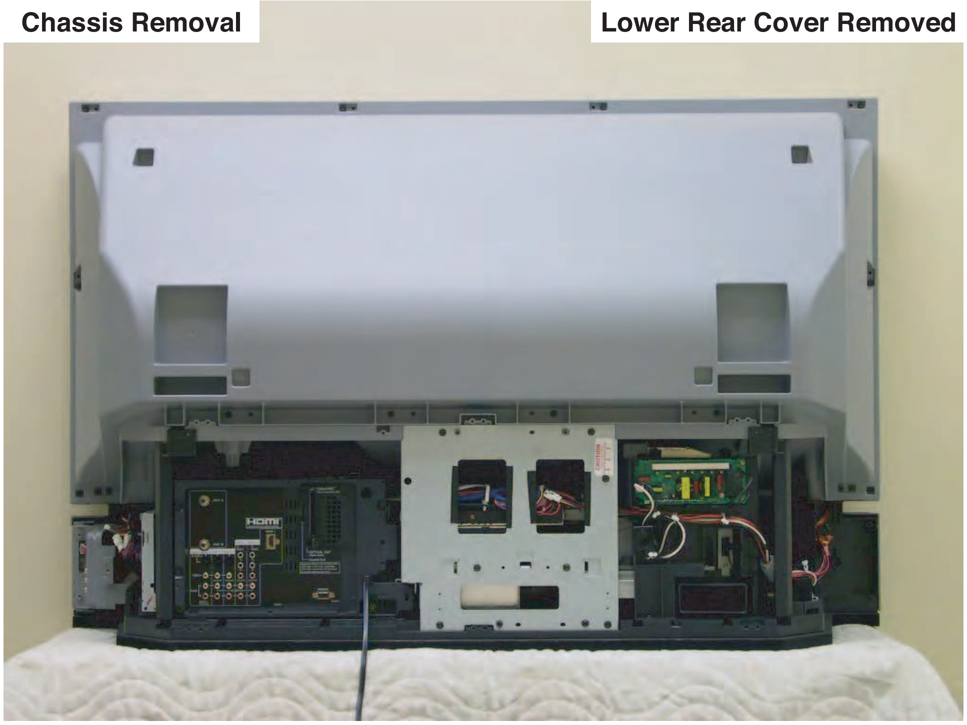
PROCEDURES

- **Chassis Assembly**
  - **Power PWB**
  - **Digital PWB**
  - **HDMI PWB**
  - **Tuner PWB**
  - **Signal PWB**
- **Optical Engine Assembly**
- **Top Assembly**



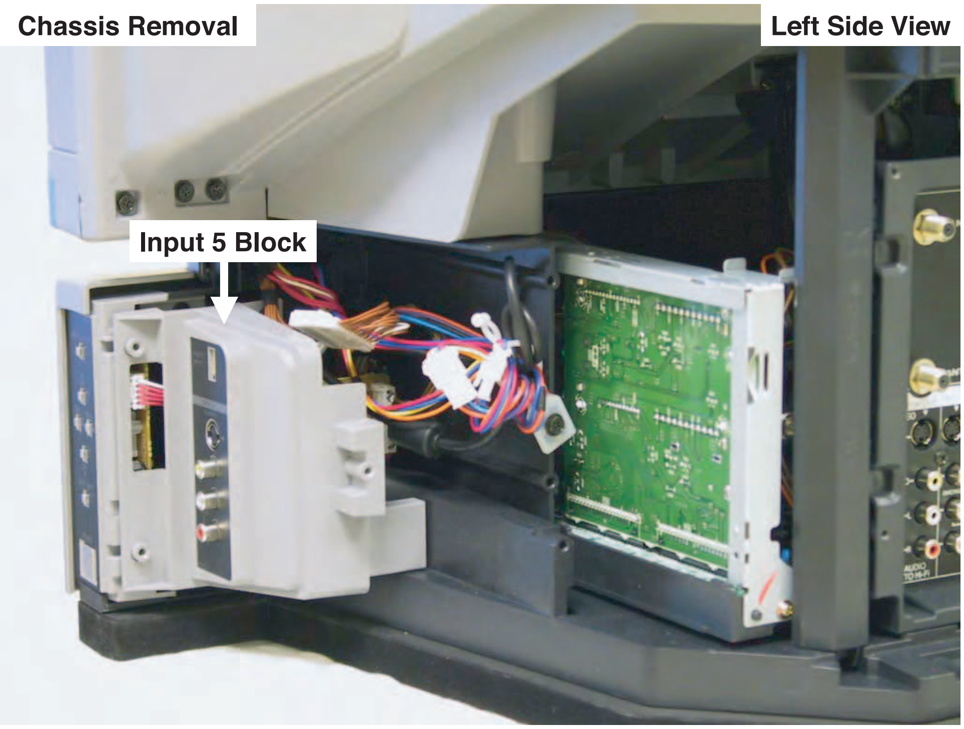
Chassis Removal

Lower Rear Cover Removal (17 screws)



Chassis Removal

Lower Rear Cover Removed



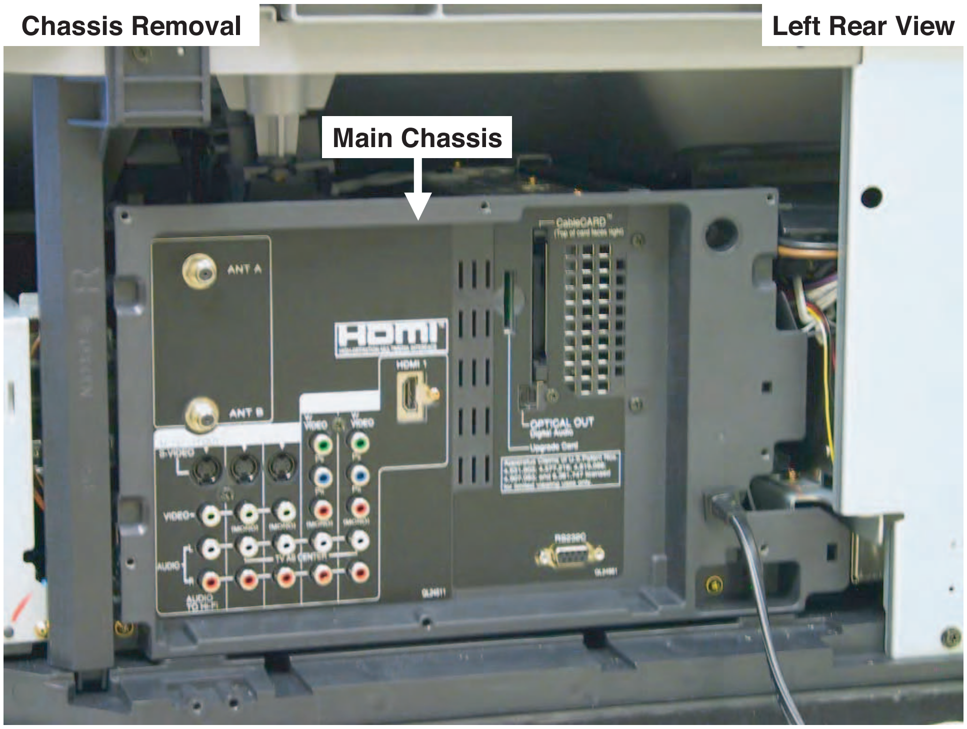
Chassis Removal

Left Side View

Input 5 Block

Chassis Removal

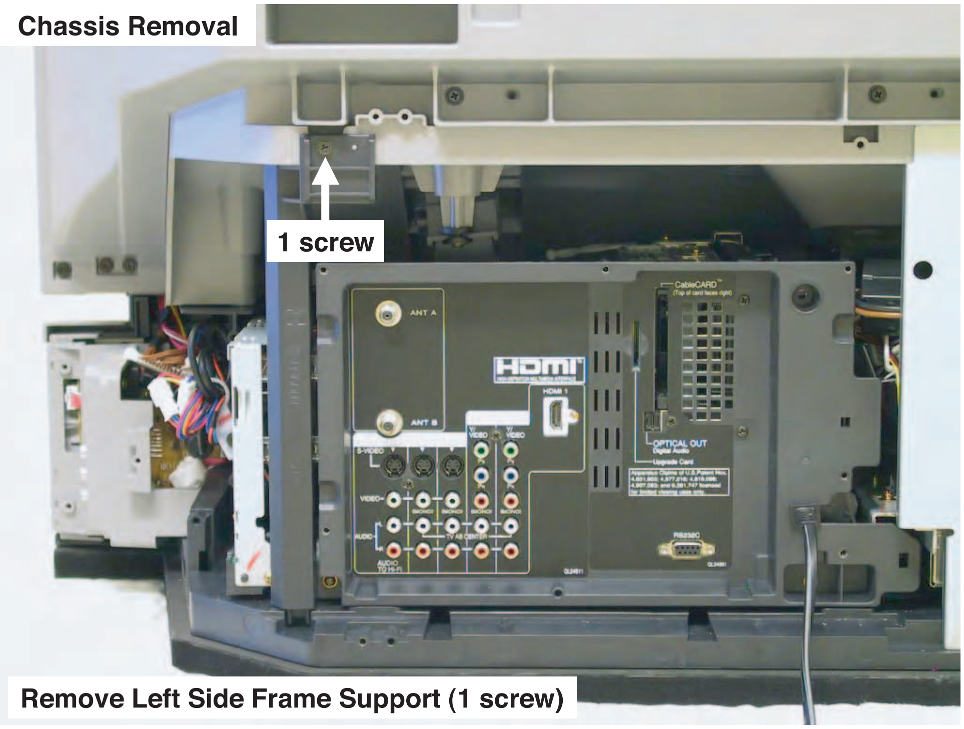
Left Rear View



Main Chassis

ANT A
ANT B
HDMI
HDMI 1
S-VIDEO
VIDEO
AUDIO
AUDIO TO Hi-Fi
TV AS CENTER
CableCARD™
OPTICAL OUT
Digital Audio
Upgrade Card
RS232C

Chassis Removal

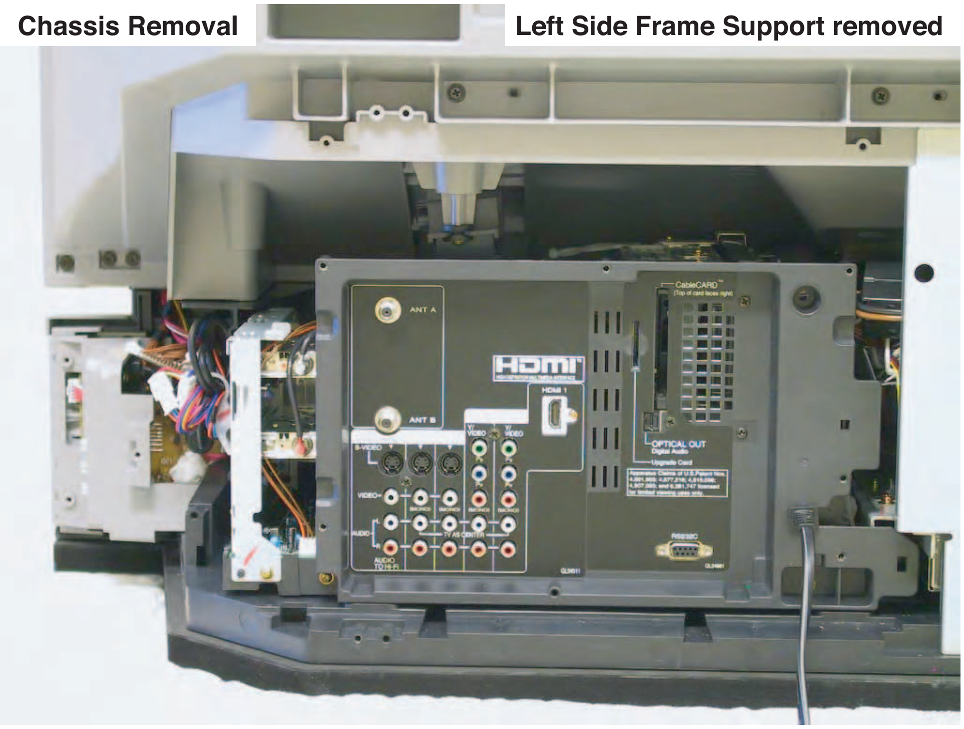


1 screw

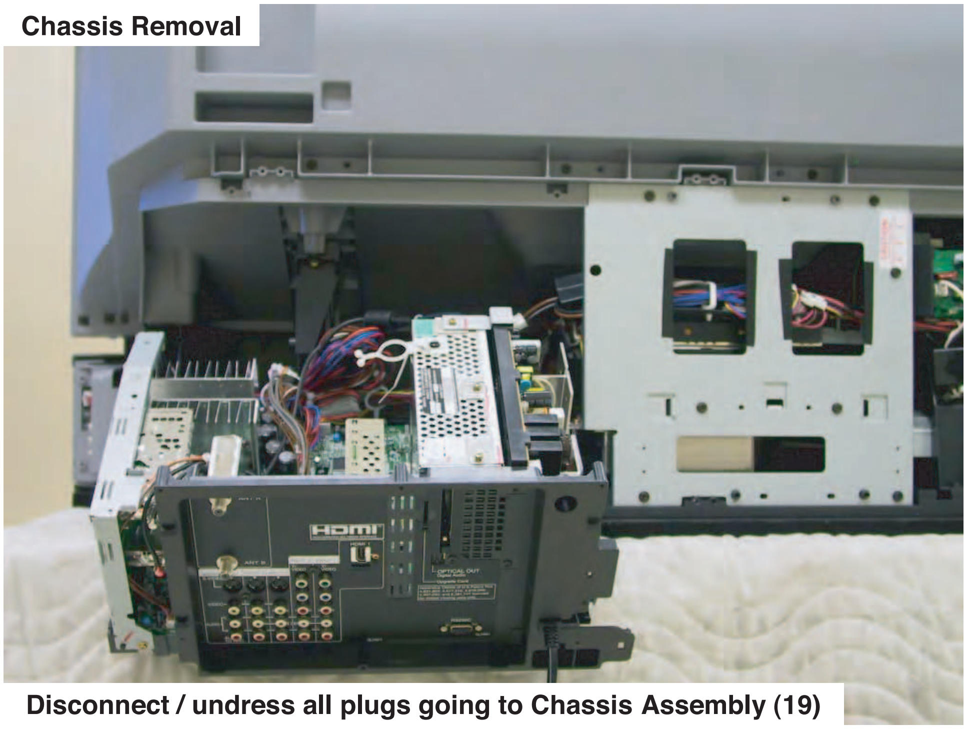
Remove Left Side Frame Support (1 screw)

ANT A
ANT B
HDMI
HDMI 1
S-VIDEO
VIDEO
AUDIO
AUDIO TO Hi-Fi
TV AS CENTER
CableCARD™
OPTICAL OUT
Digital Audio
Upgrade Card
RS232C

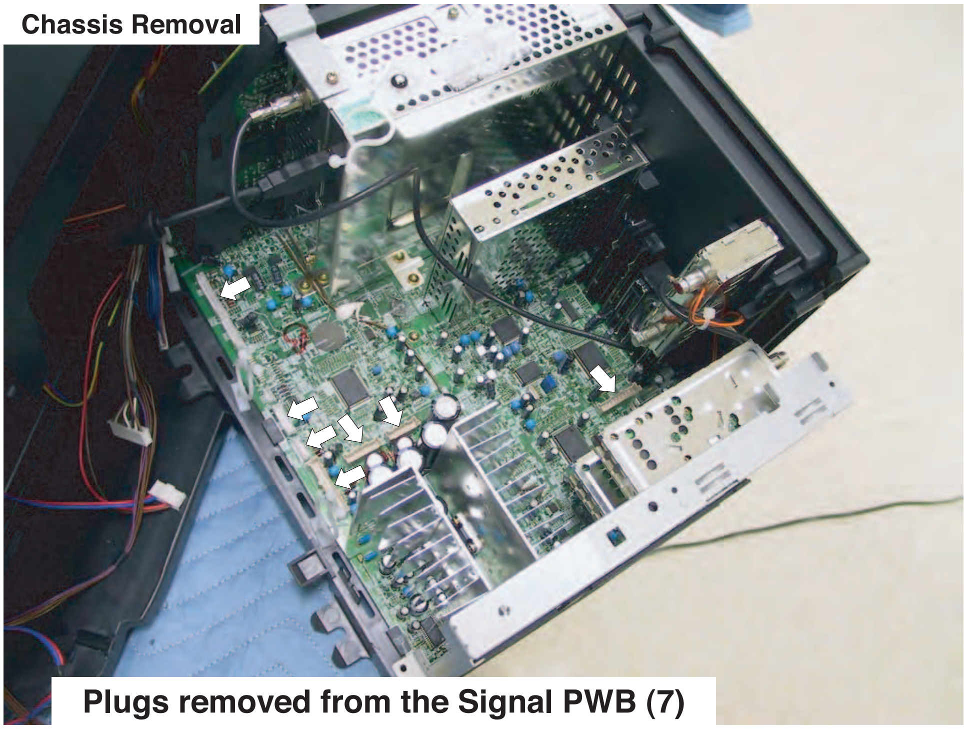
Chassis Removal **Left Side Frame Support removed**


ANT A
ANT B
HDMI 1
CableCARD
S-VIDEO
VIDEO
AUDIO
AUDIO TO HI-FI
TV AS CENTER
OPTICAL OUT
Digital Audio
Upgrade Card
RS232C

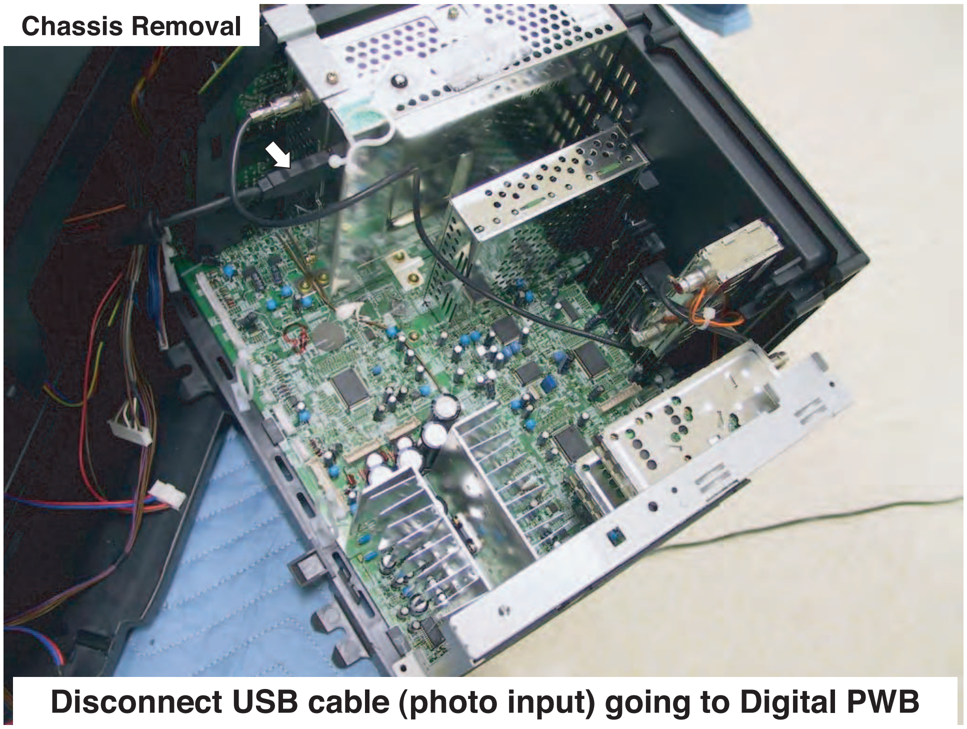
Chassis Removal



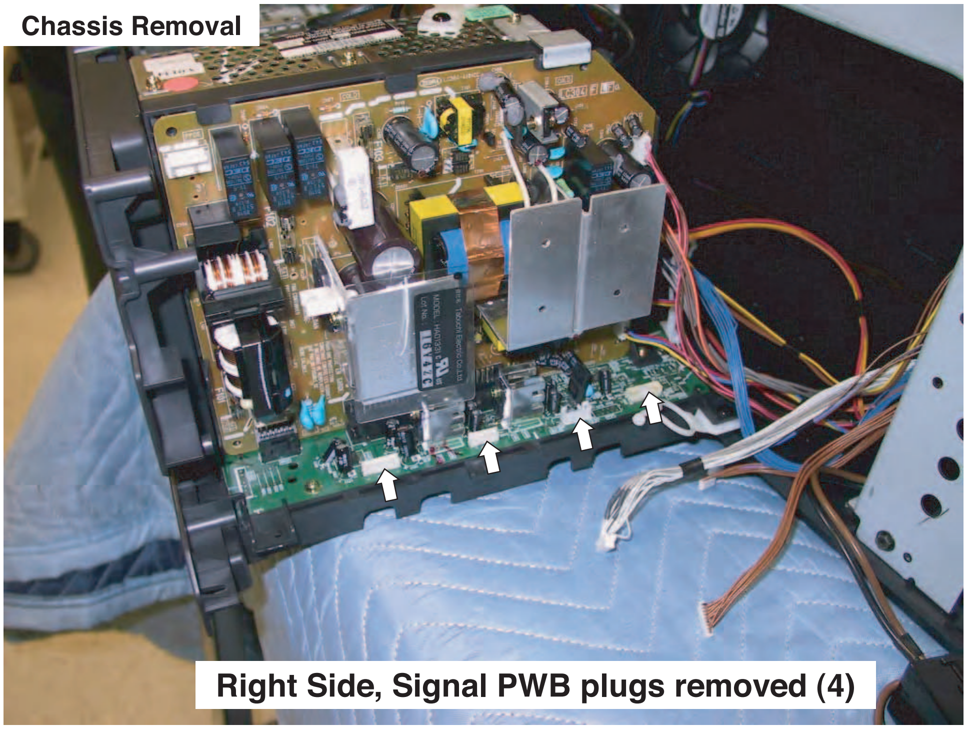
Disconnect / undress all plugs going to Chassis Assembly (19)


Chassis Removal

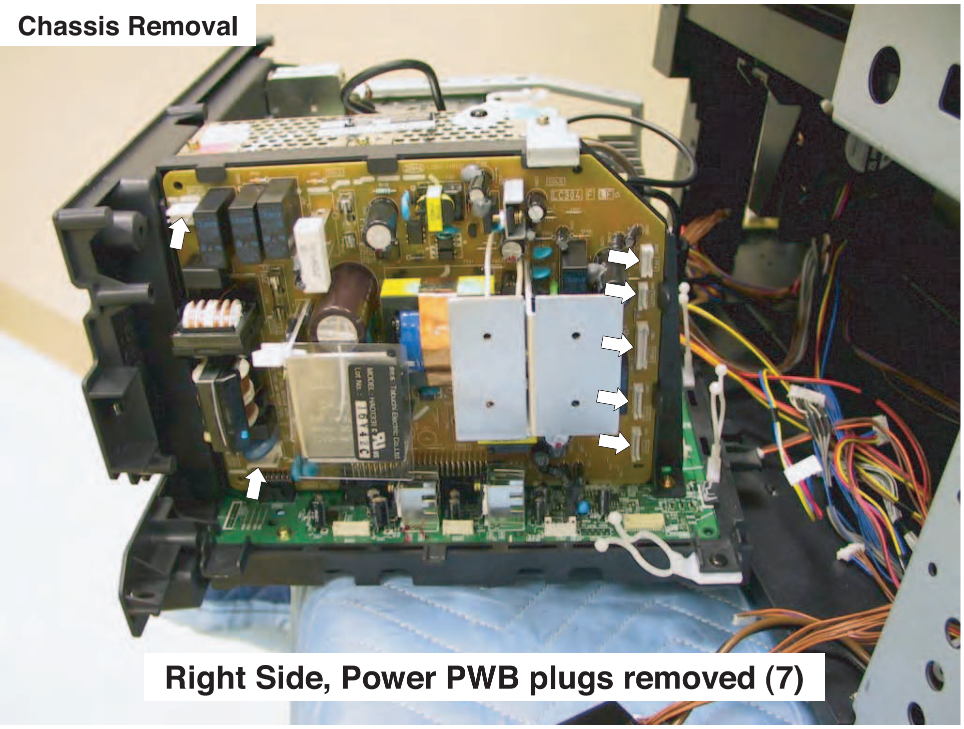
Plugs removed from the Signal PWB (7)


Chassis Removal

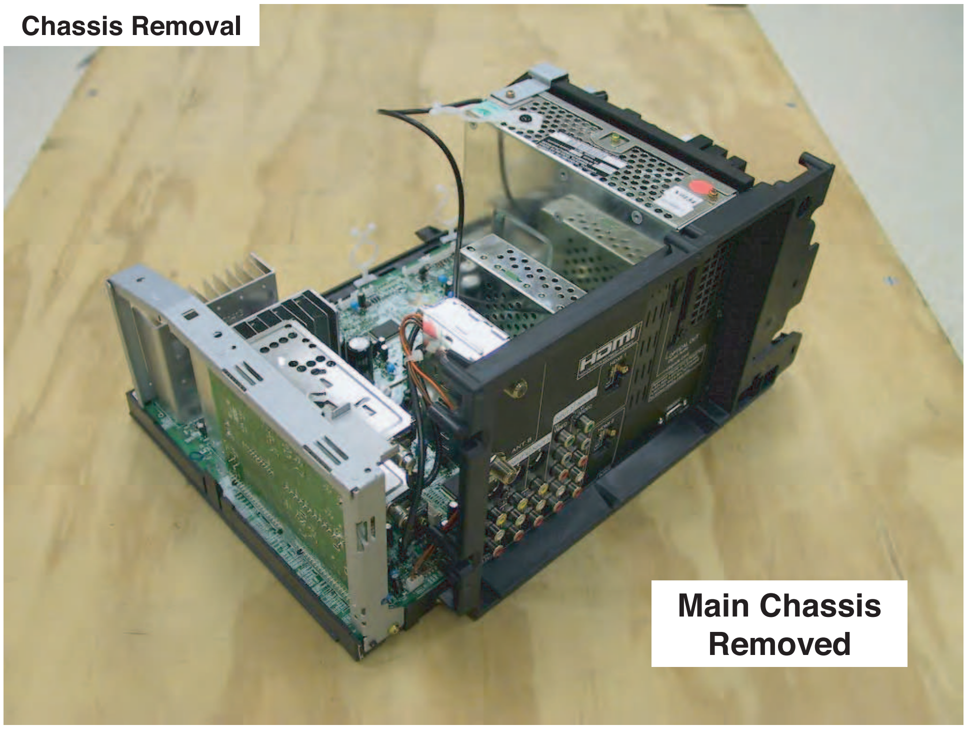
Disconnect USB cable (photo input) going to Digital PWB

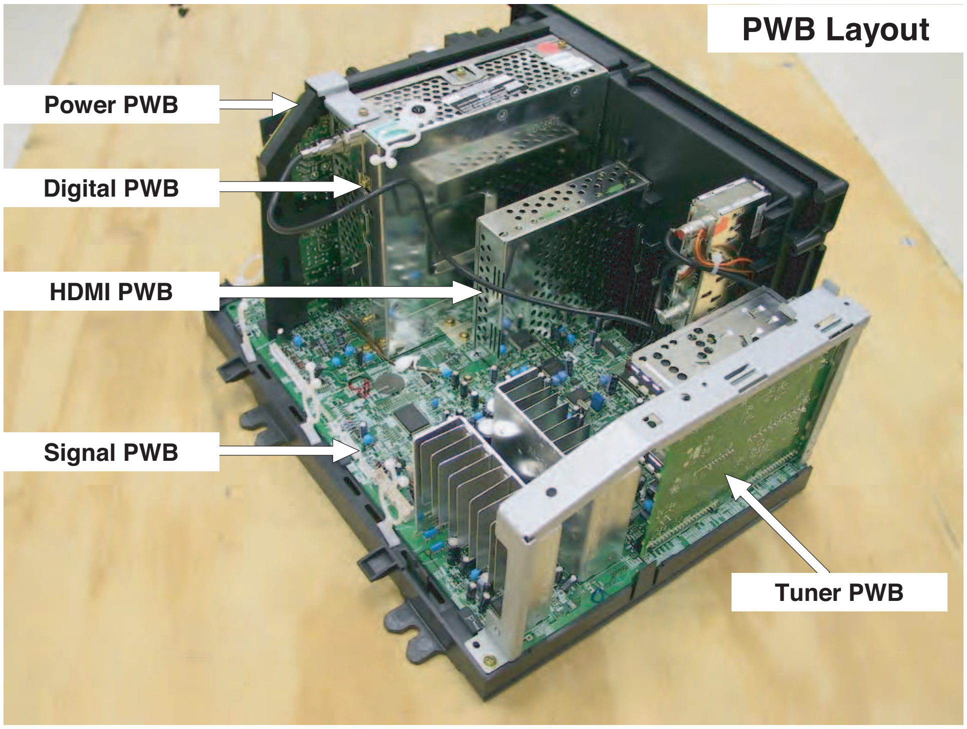

Chassis Removal

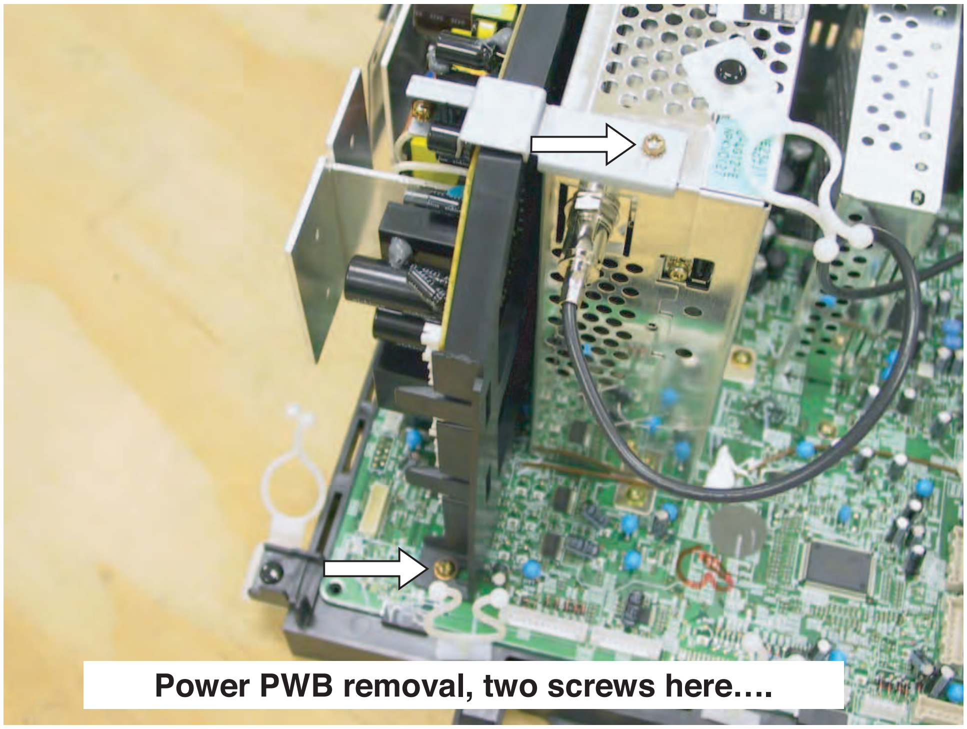
Right Side, Signal PWB plugs removed (4)


Chassis Removal

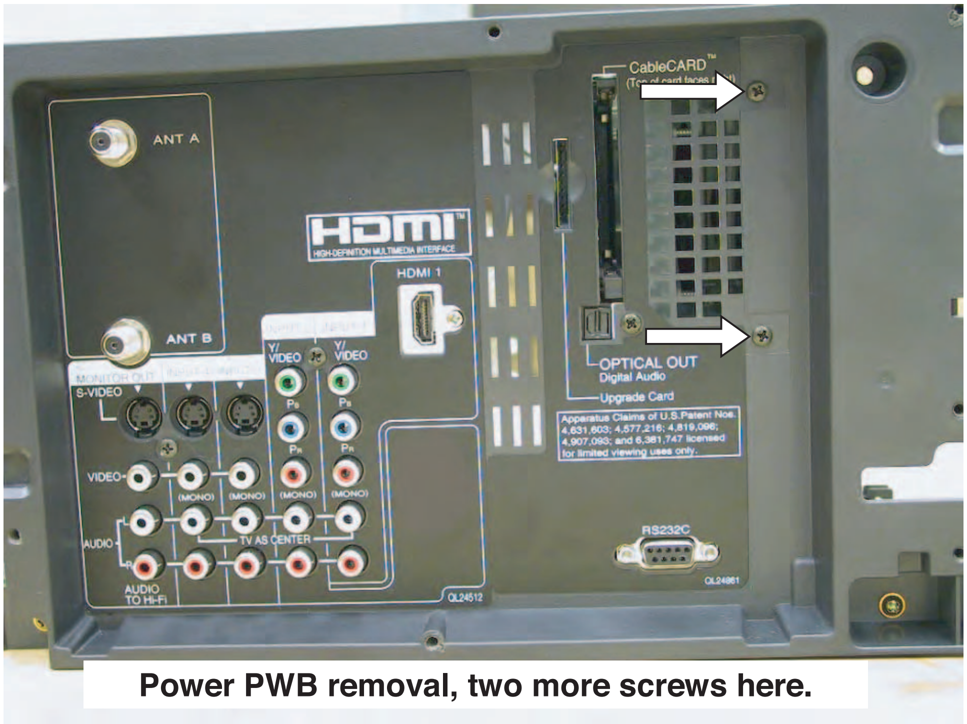
Right Side, Power PWB plugs removed (7)


Chassis Removal
Main Chassis Removed

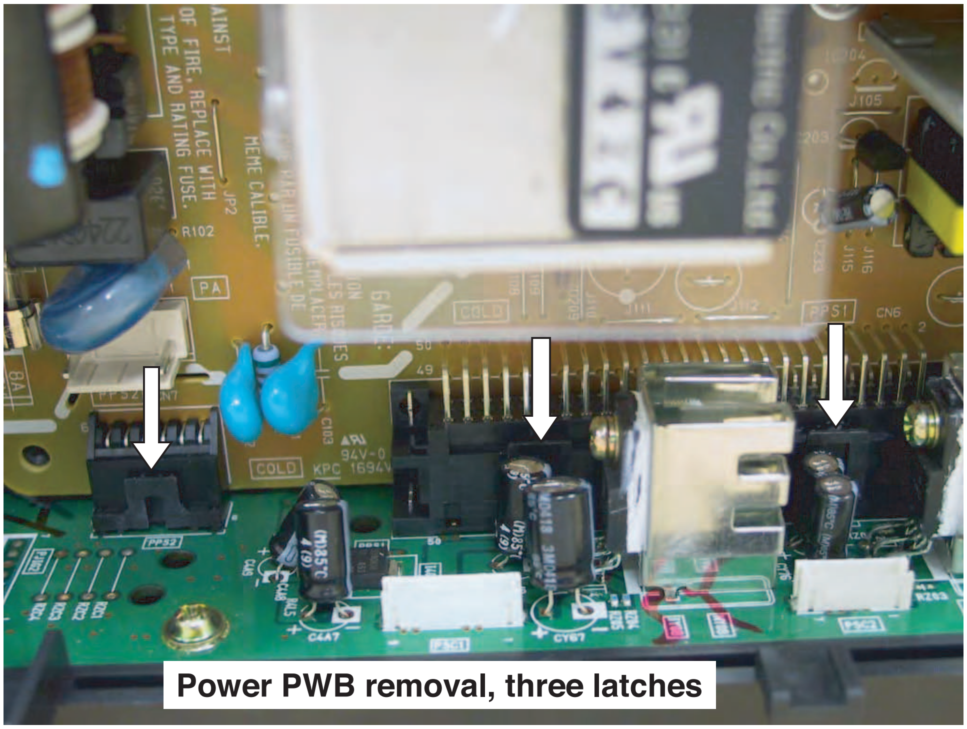

PWB Layout
Power PWB
Digital PWB
HDMI PWB
Signal PWB
Tuner PWB



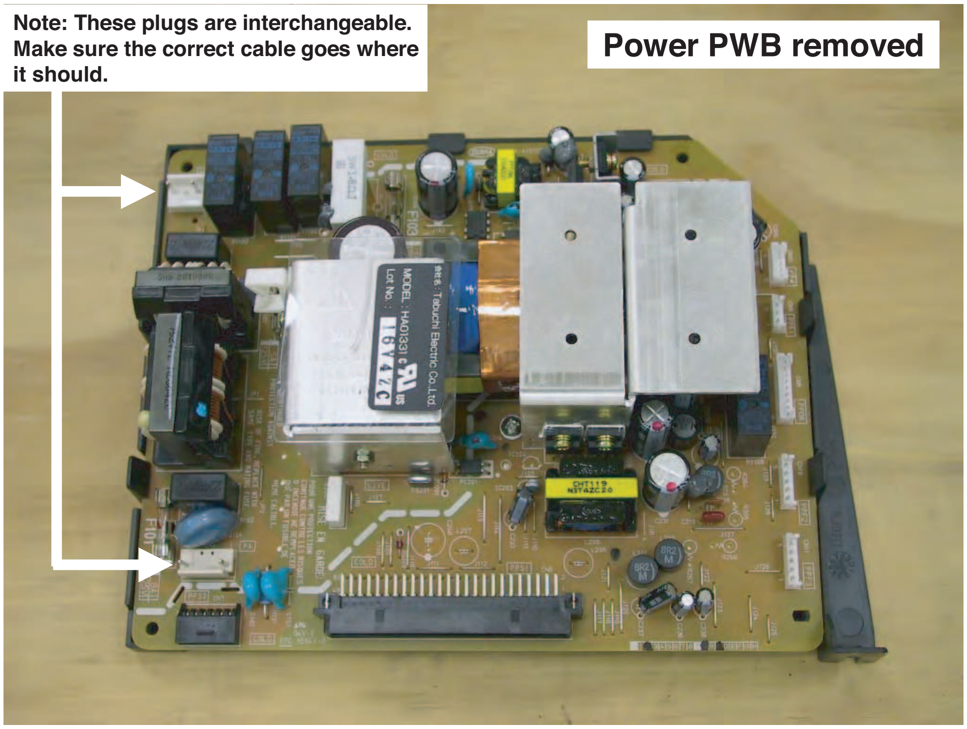
Power PWB removal, two screws here….


ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
CableCARD™
MONITOR OUT
S-VIDEO
VIDEO
AUDIO
AUDIO TO Hi-Fi
Y/ VIDEO
PB
PR
(MONO)
TV AS CENTER
OPTICAL OUT
Digital Audio
Upgrade Card
Apparatus Claims of U.S.Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.
RS232C
QL24512
QL24861

Power PWB removal, two more screws here.

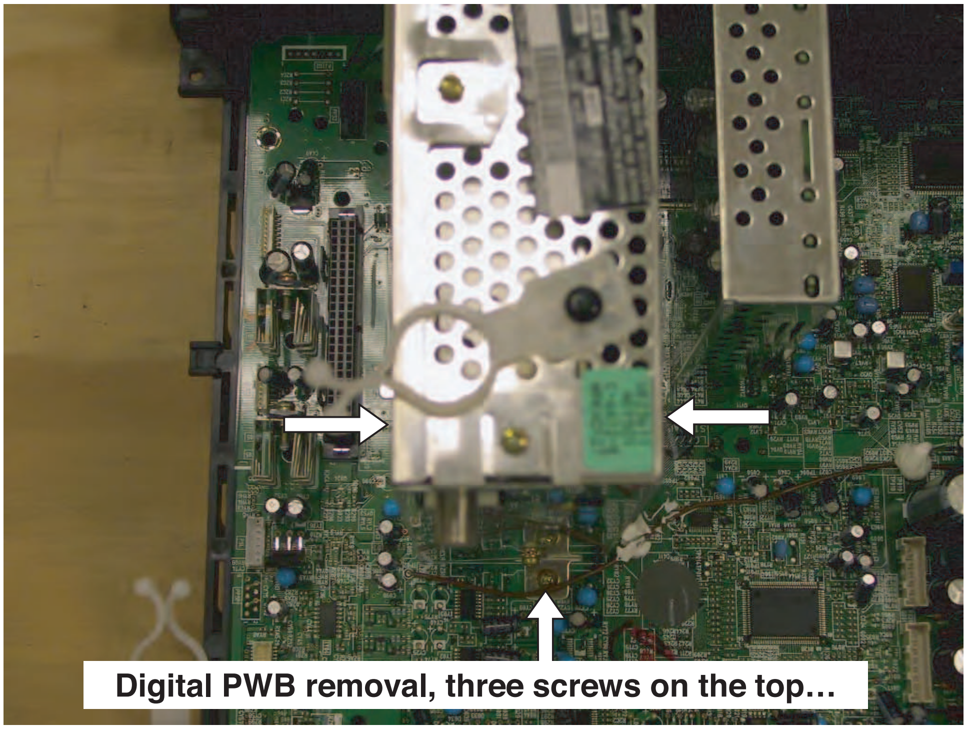


Power PWB removal, three latches

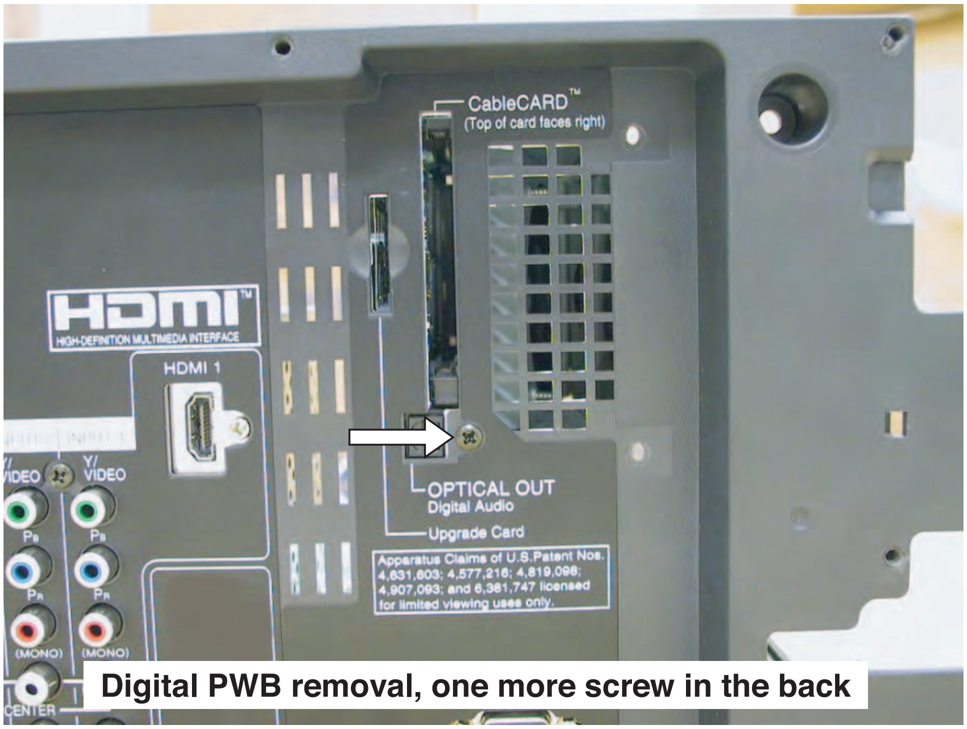


Note: These plugs are interchangeable. Make sure the correct cable goes where it should.

Power PWB removed

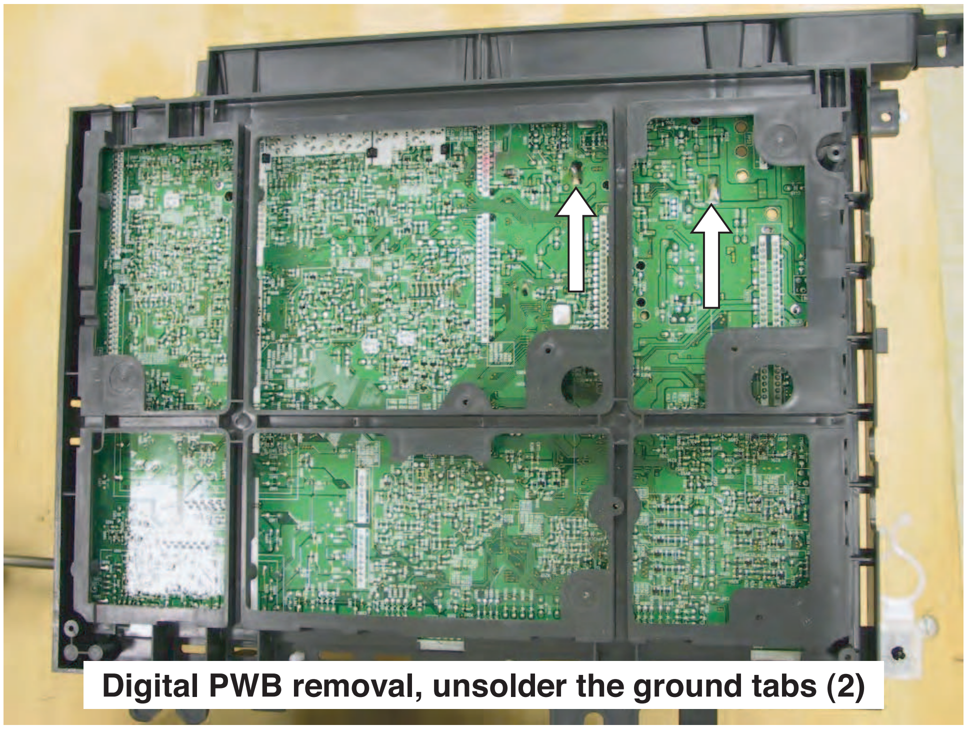


Digital PWB removal, three screws on the top…

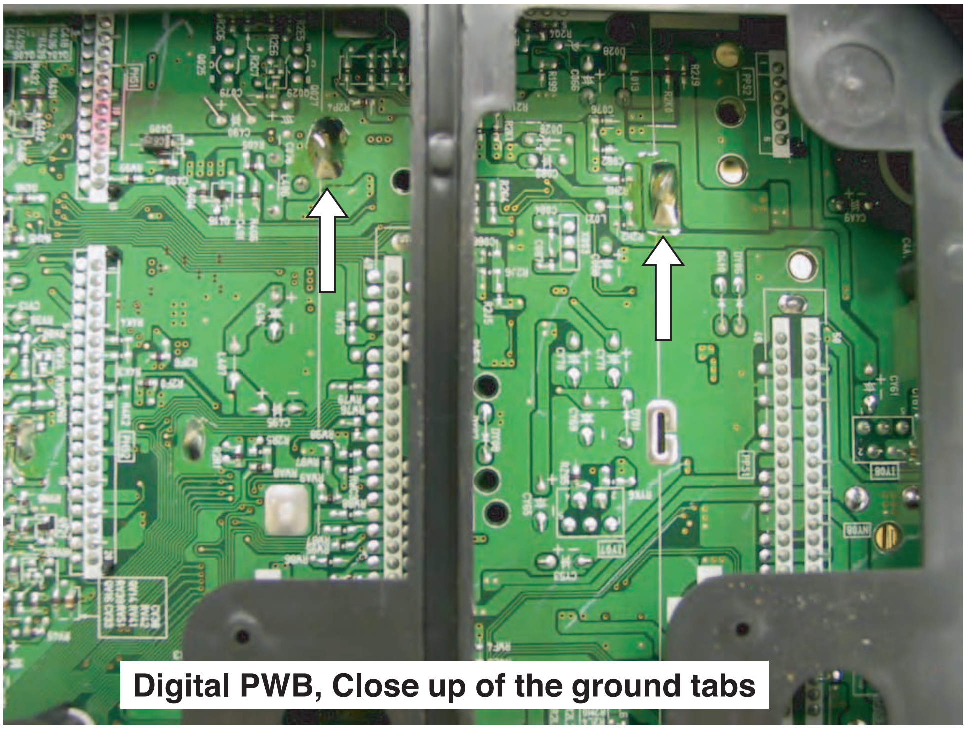


Digital PWB removal, one more screw in the back

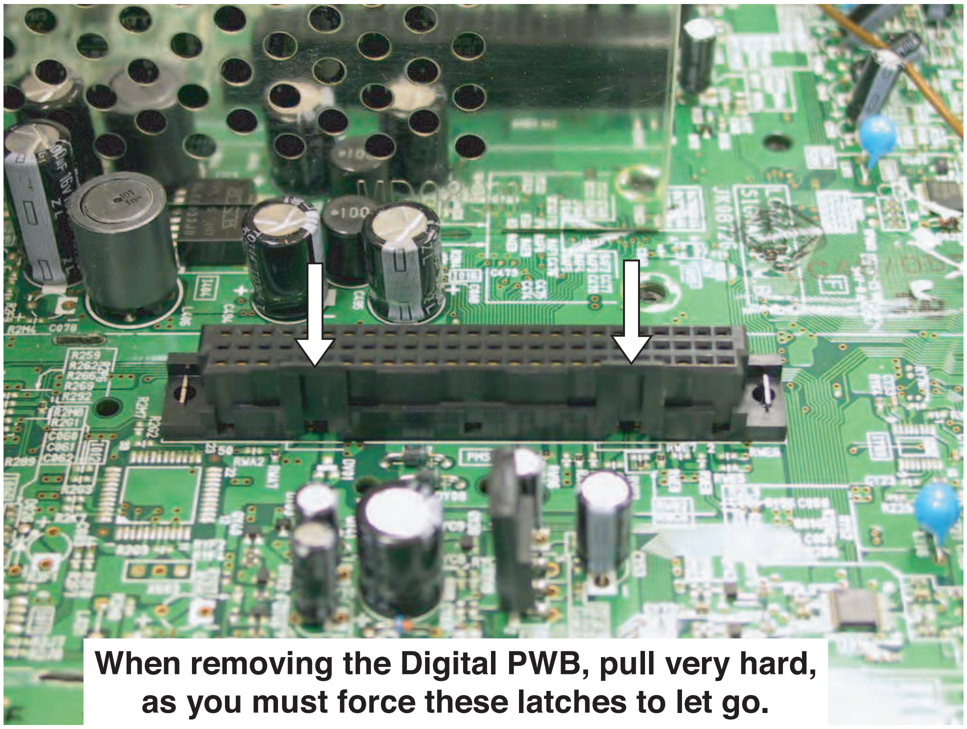
CableCARD™
(Top of card faces right)
HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
Y/VIDEO
Y/VIDEO
PB
PB
PR
PR
(MONO)
(MONO)
CENTER
OPTICAL OUT
Digital Audio
Upgrade Card
Apparatus Claims of U.S.Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.



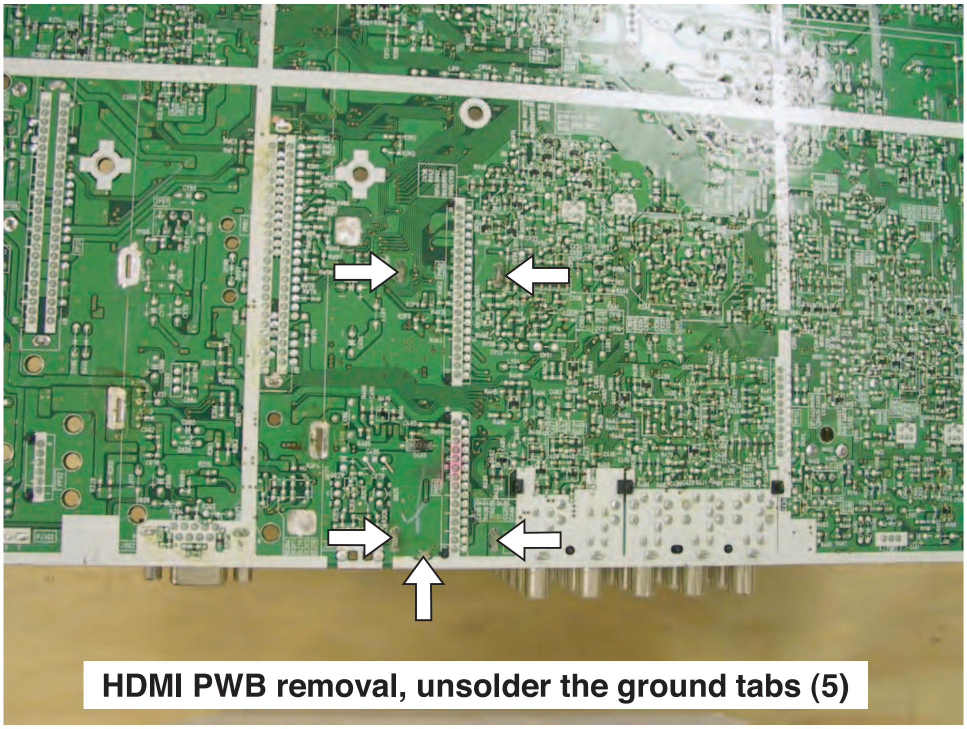
Digital PWB removal, unsolder the ground tabs (2)



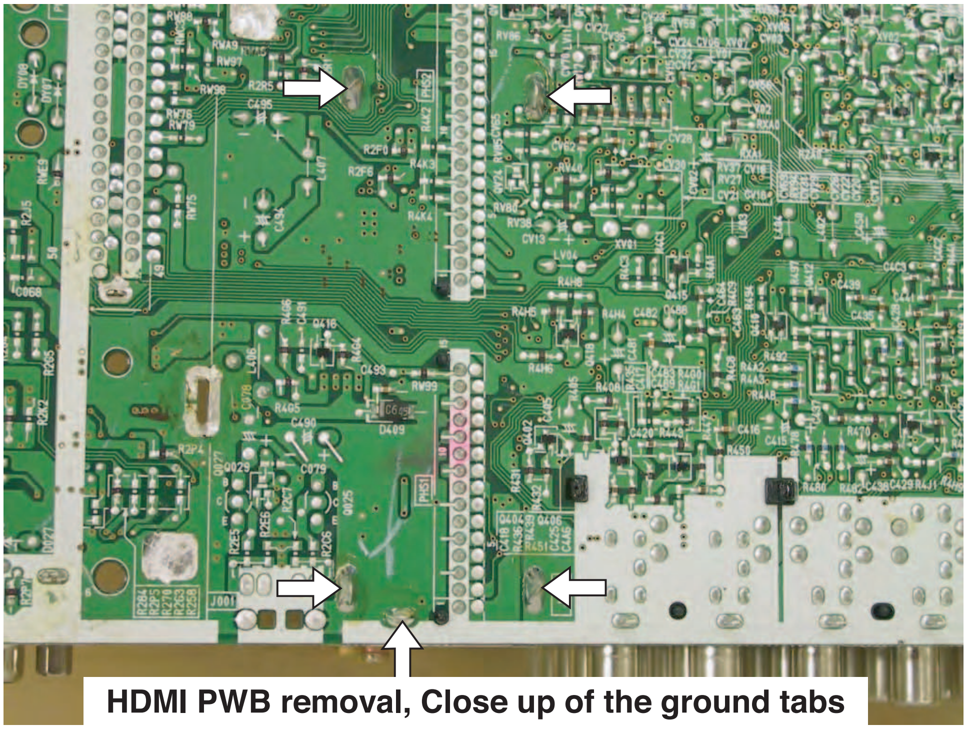
Digital PWB, Close up of the ground tabs



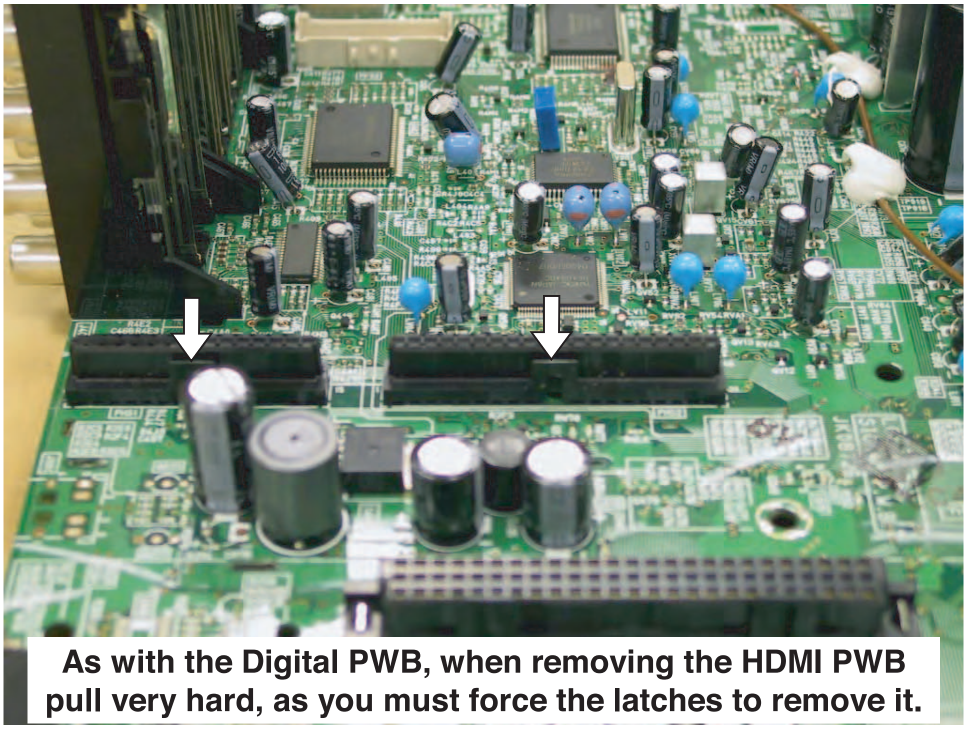
When removing the Digital PWB, pull very hard, as you must force these latches to let go.



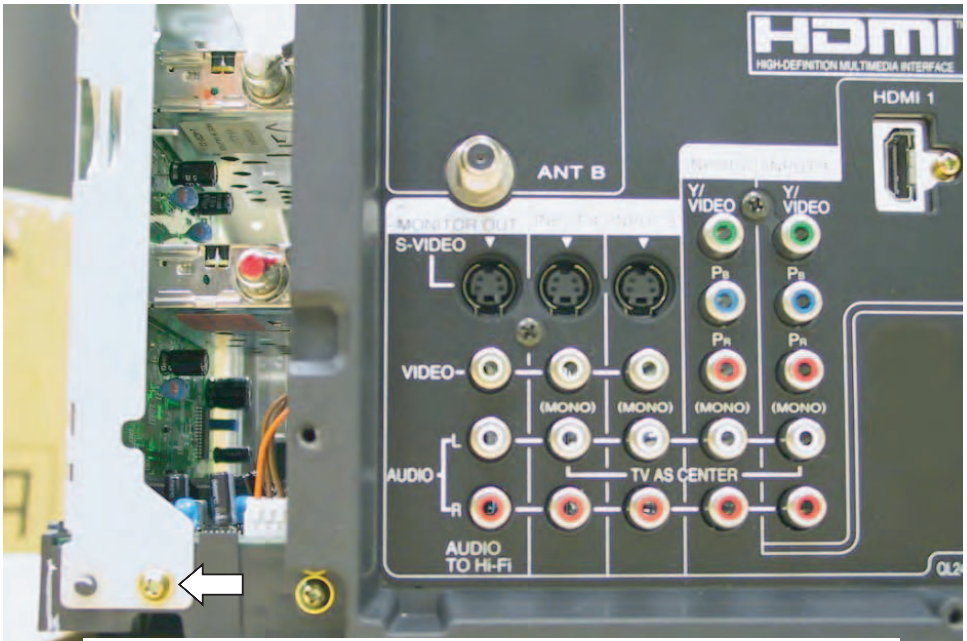
HDMI PWB removal, unsolder the ground tabs (5)



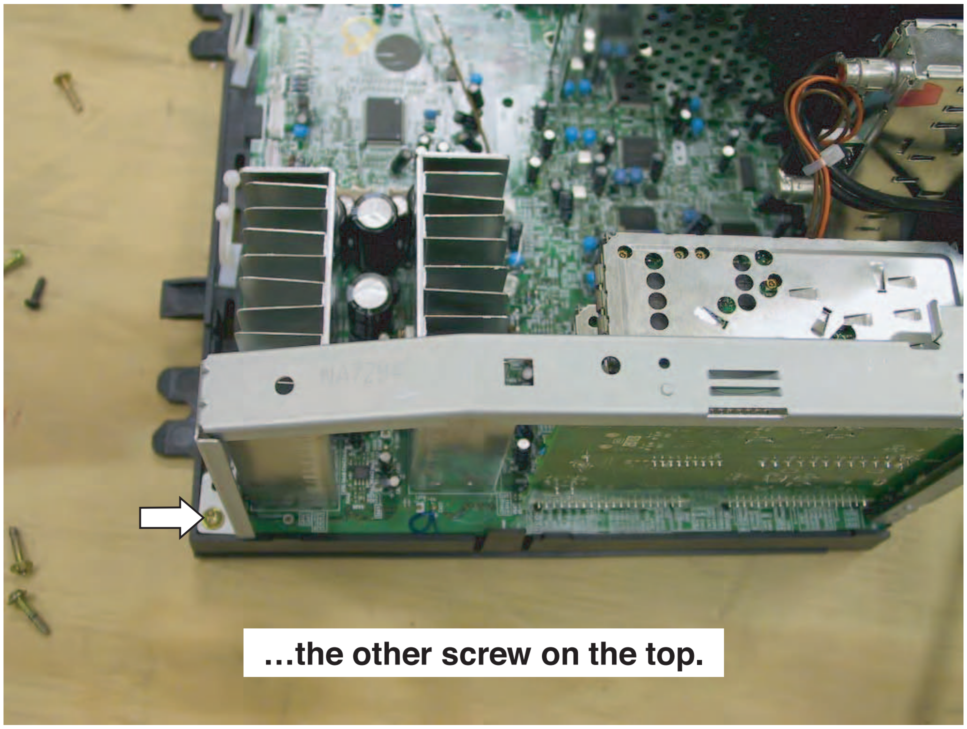
HDMI PWB removal, Close up of the ground tabs



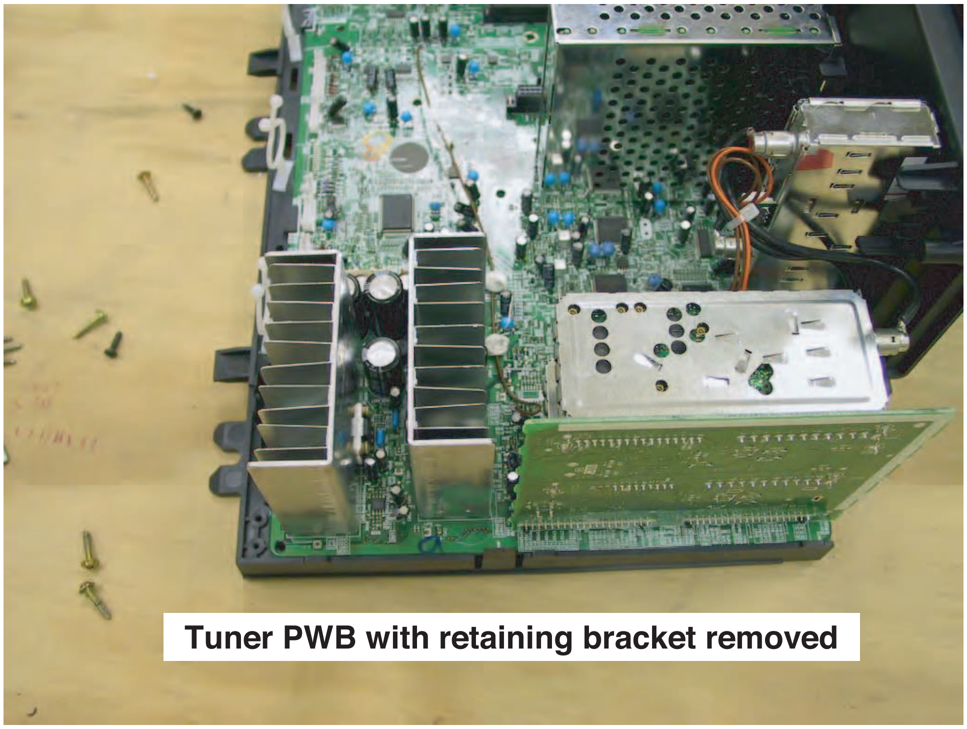
As with the Digital PWB, when removing the HDMI PWB pull very hard, as you must force the latches to remove it.


HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
ANT B
MONITOR OUT
S-VIDEO
Y/ VIDEO
Y/ VIDEO
PB
PB
PR
PR
VIDEO
(MONO)
(MONO)
(MONO)
(MONO)
AUDIO
L
R
TV AS CENTER
AUDIO TO Hi-Fi

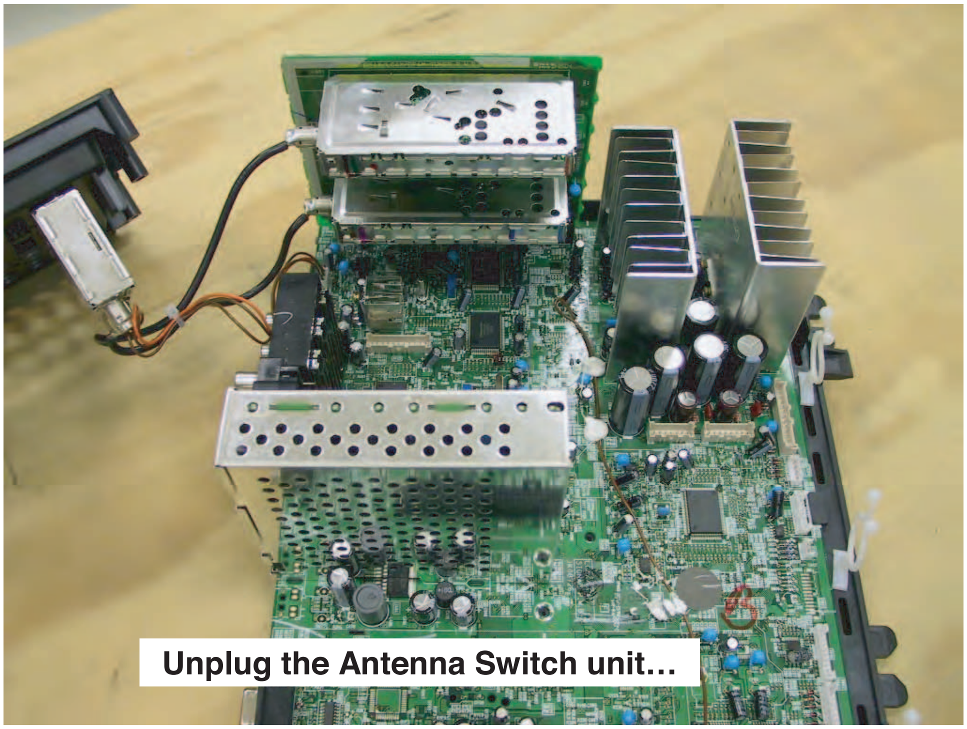
Remove the screws securing the Tuner PWB retaining bracket, one in the back….



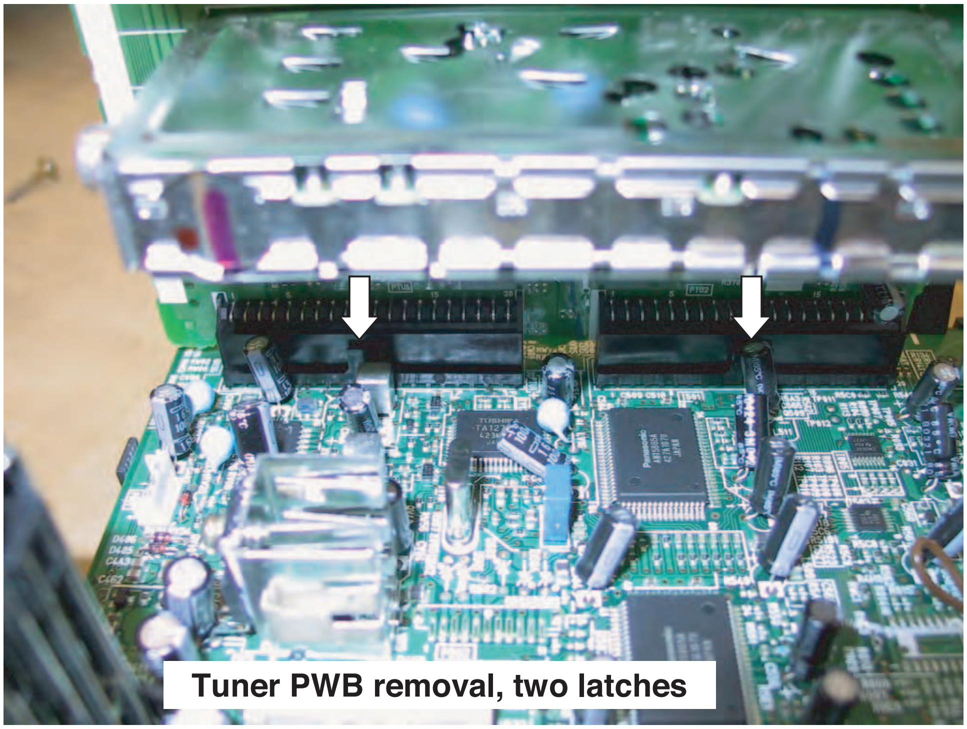
…the other screw on the top.

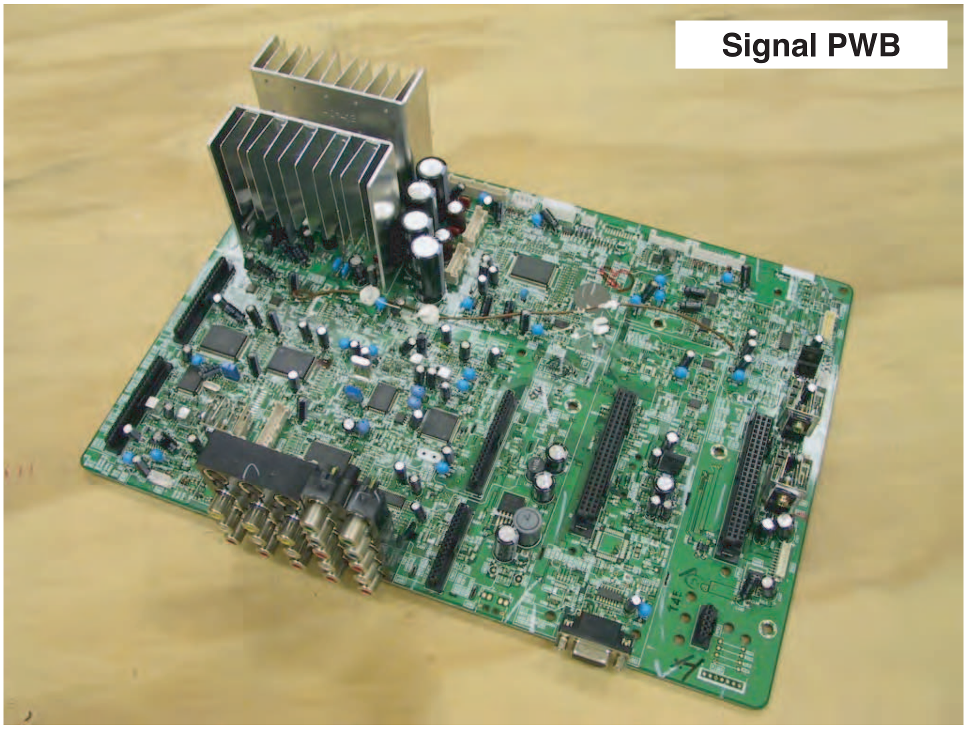


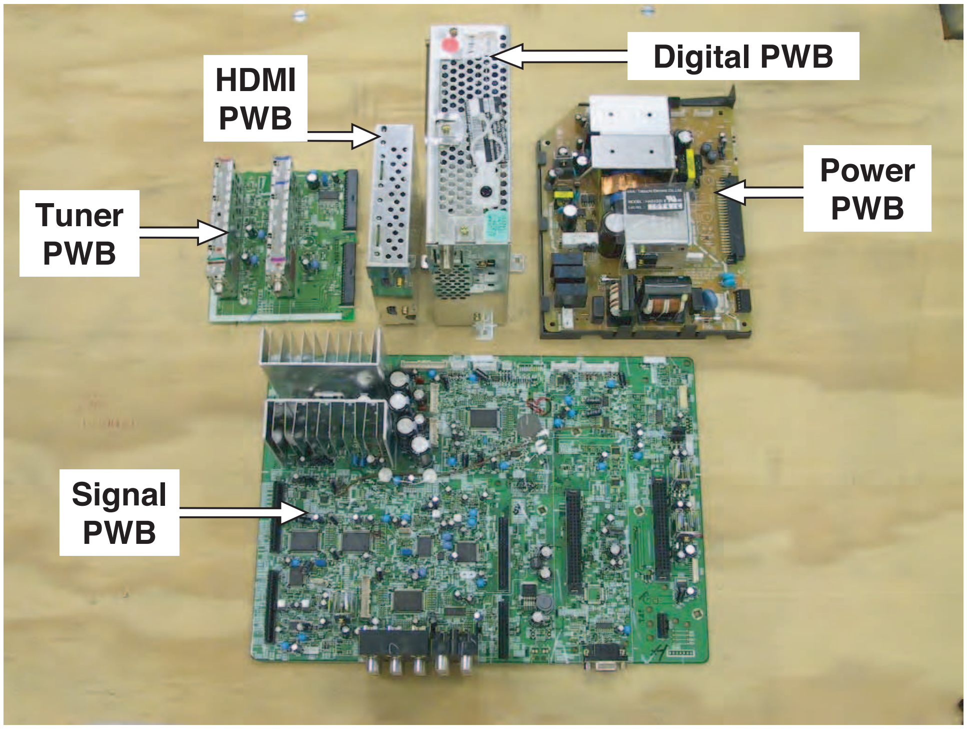
Tuner PWB with retaining bracket removed



Unplug the Antenna Switch unit…


Tuner PWB removal, two latches


Signal PWB

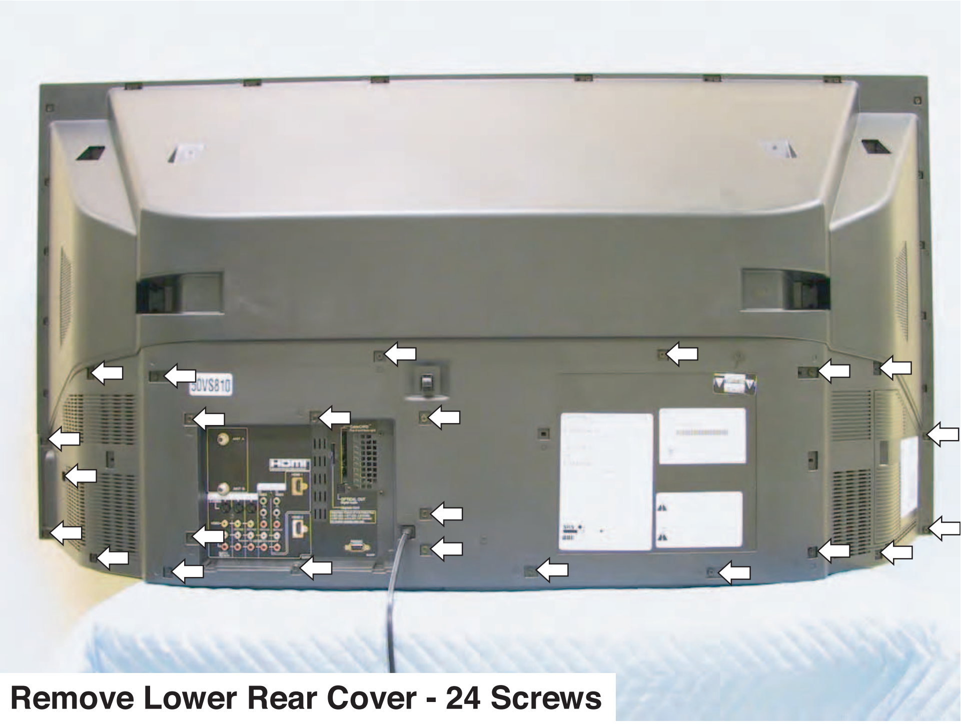

Digital PWB
HDMI PWB
Power PWB
Tuner PWB
Signal PWB

Re-assemble in reverse order

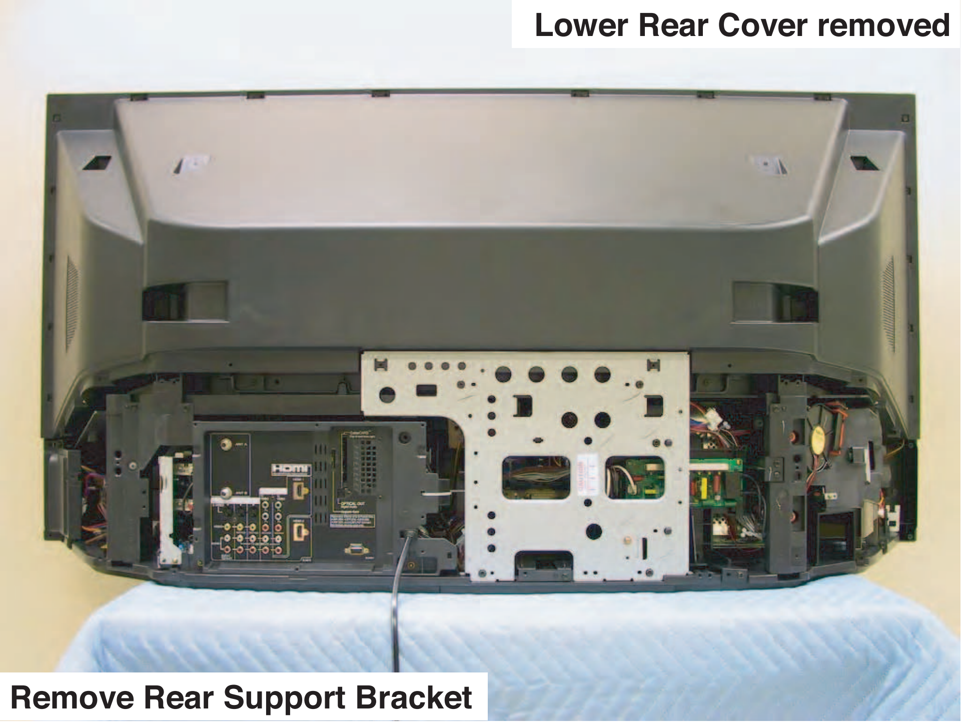
LC48 DISASSEMBLY

PROCEDURES

- Chassis Assembly
- Optical Engine Assembly
- Top Assembly
  - Upper Rear Cover Assembly
    - Mirror
    - Sub Woofers
  - Front Assembly
    - Main Speakers
    - LED PWB
    - Screen Assembly

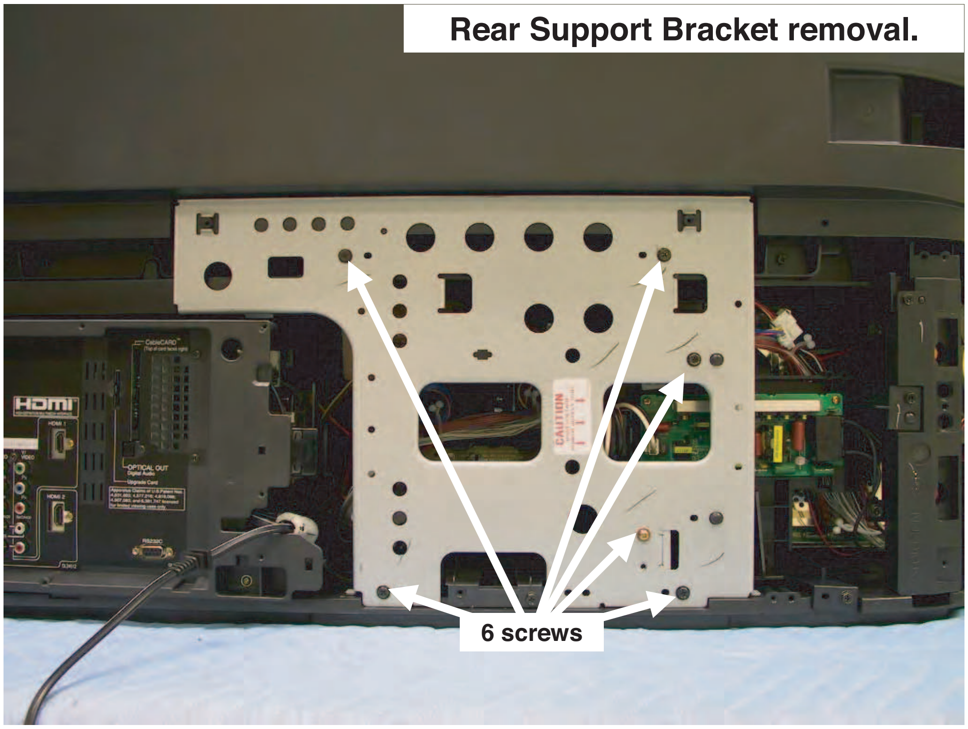


Remove Lower Rear Cover - 24 Screws



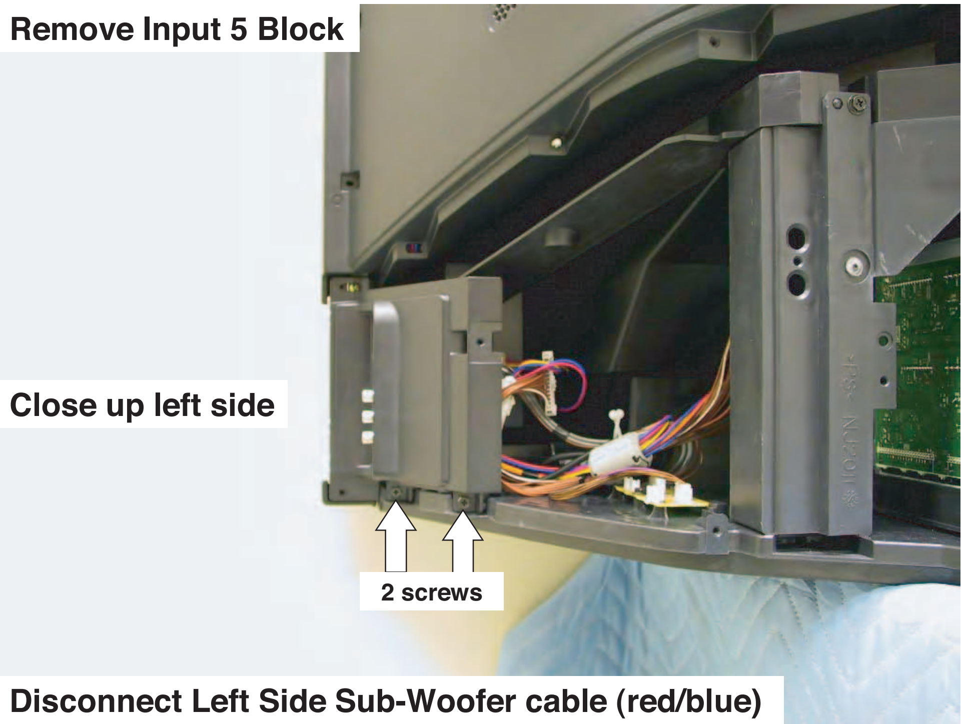
Lower Rear Cover removed

Remove Rear Support Bracket



Rear Support Bracket removal.

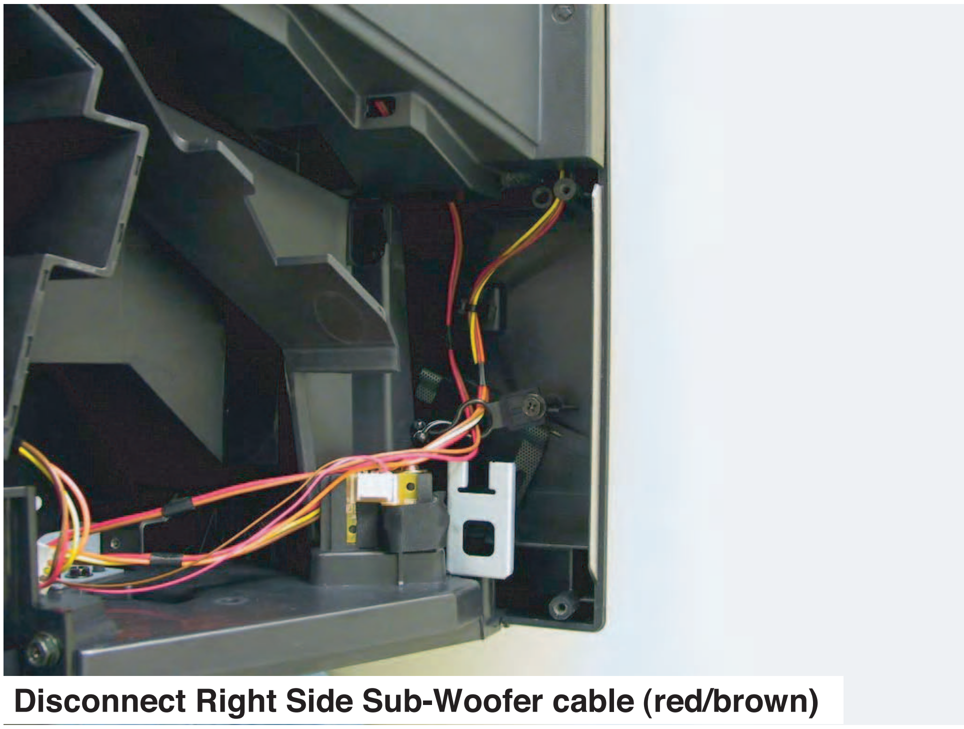
6 screws



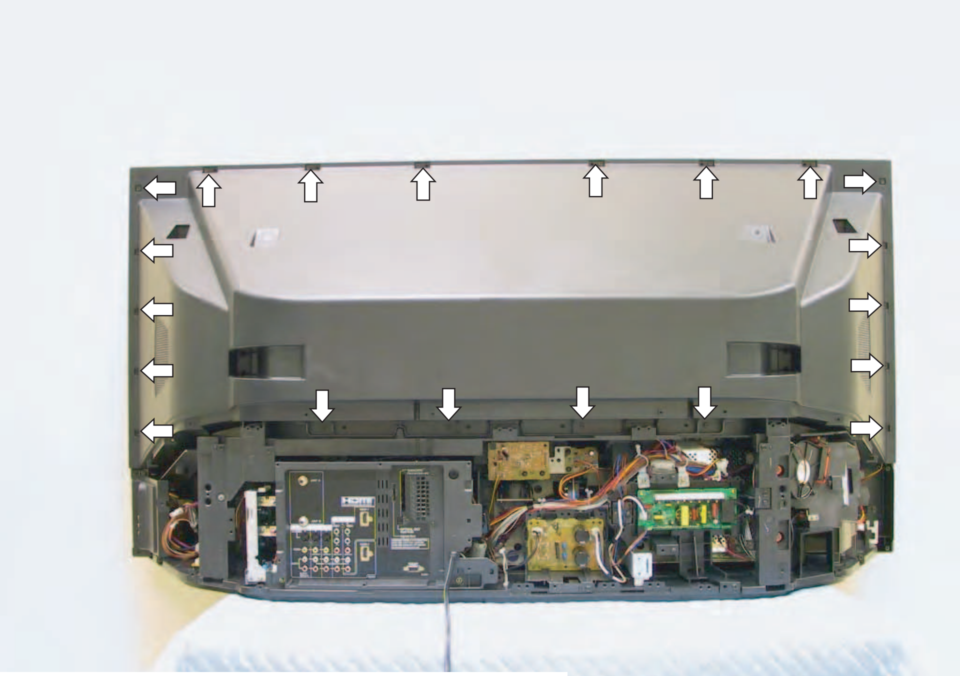
Remove Input 5 Block

Close up left side

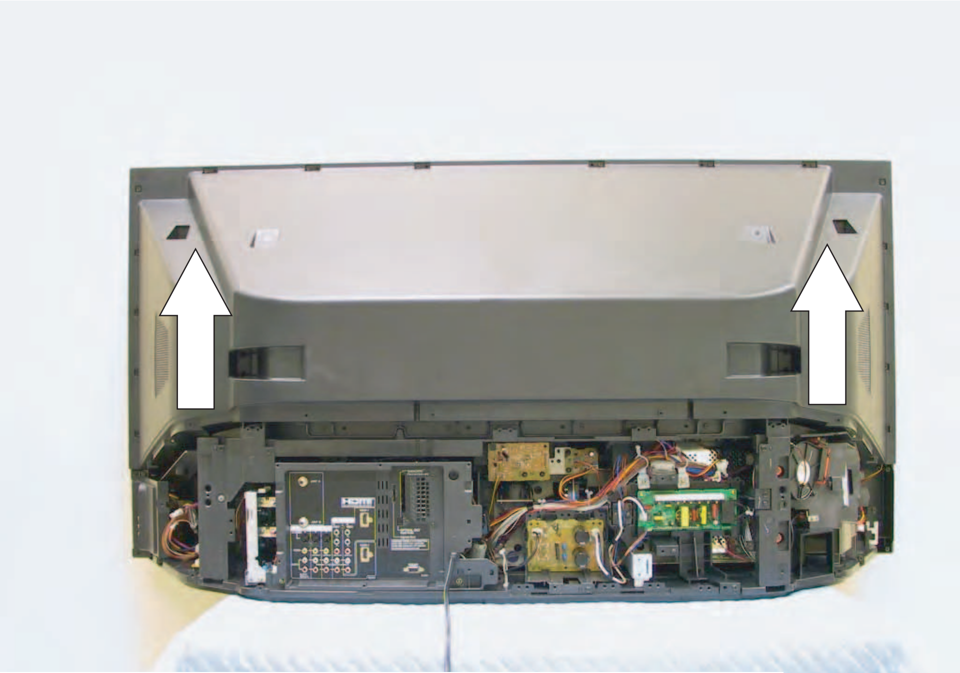
Disconnect Left Side Sub-Woofer cable (red/blue)



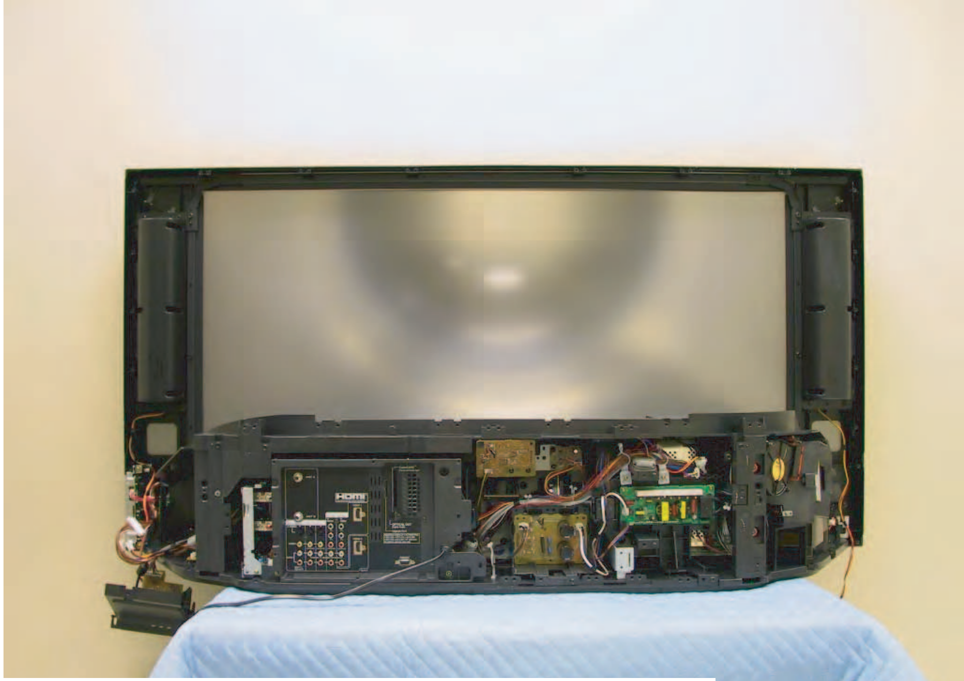
Disconnect Right Side Sub-Woofer cable (red/brown)



Remove Top Assembly (20 screws)

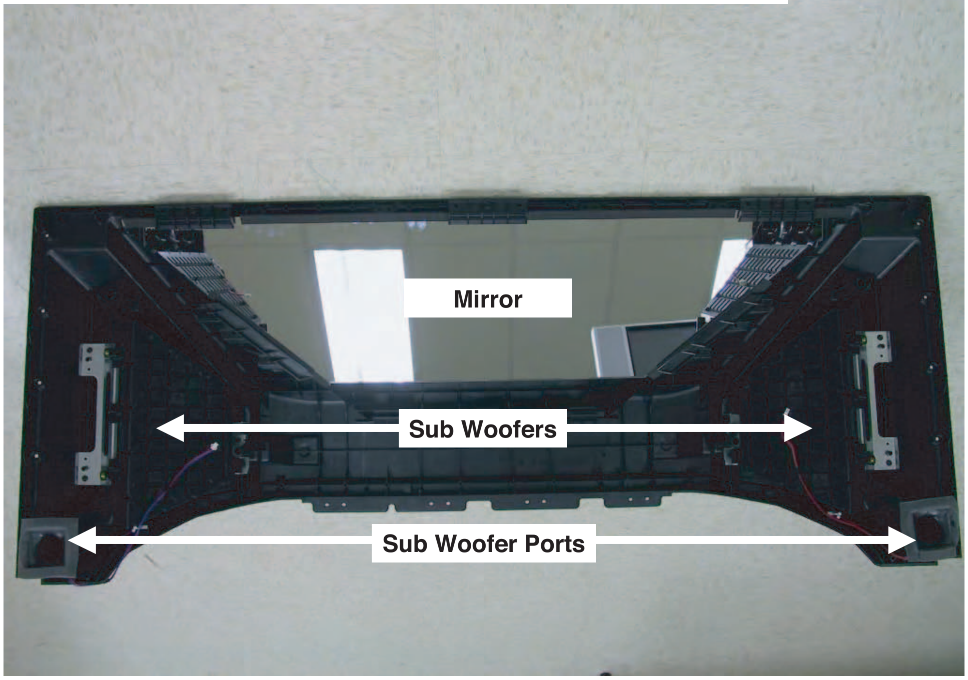


Remove Top Assembly off, pull up & back

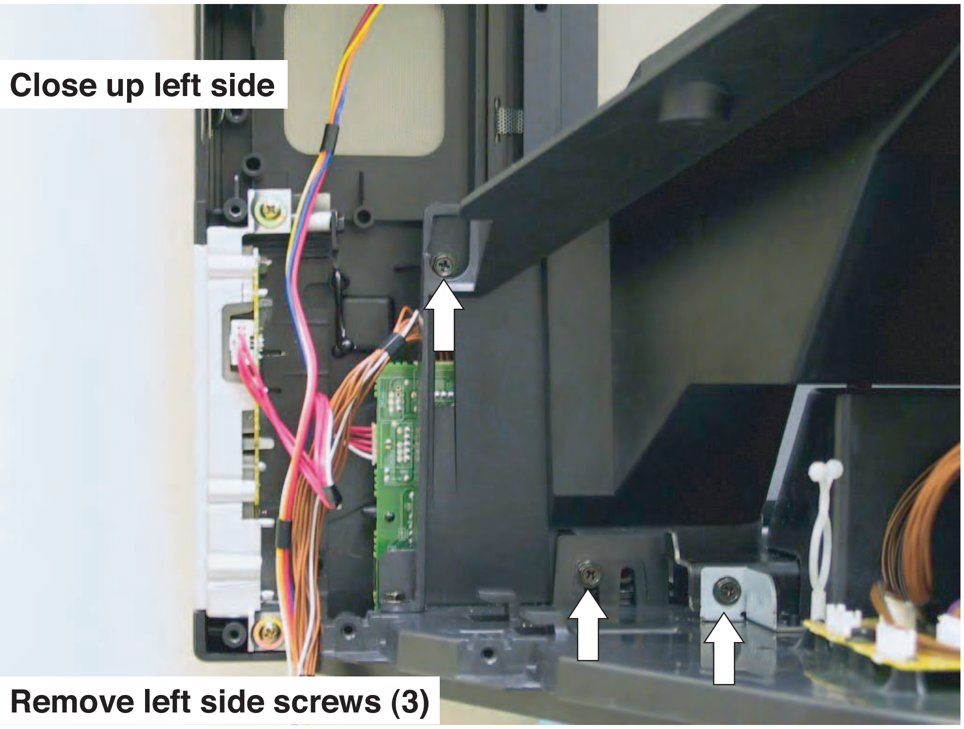


As top is removed, make sure wires don't get hung up.

Internal View of Top Assembly



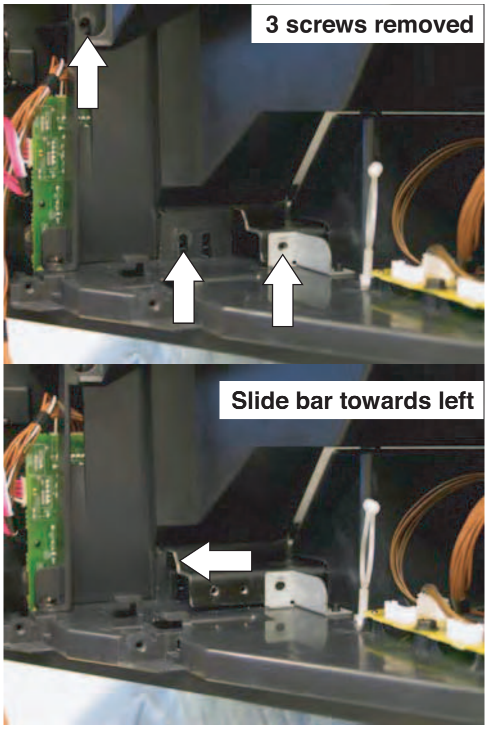
Mirror
Sub Woofers
Sub Woofer Ports



Close up left side

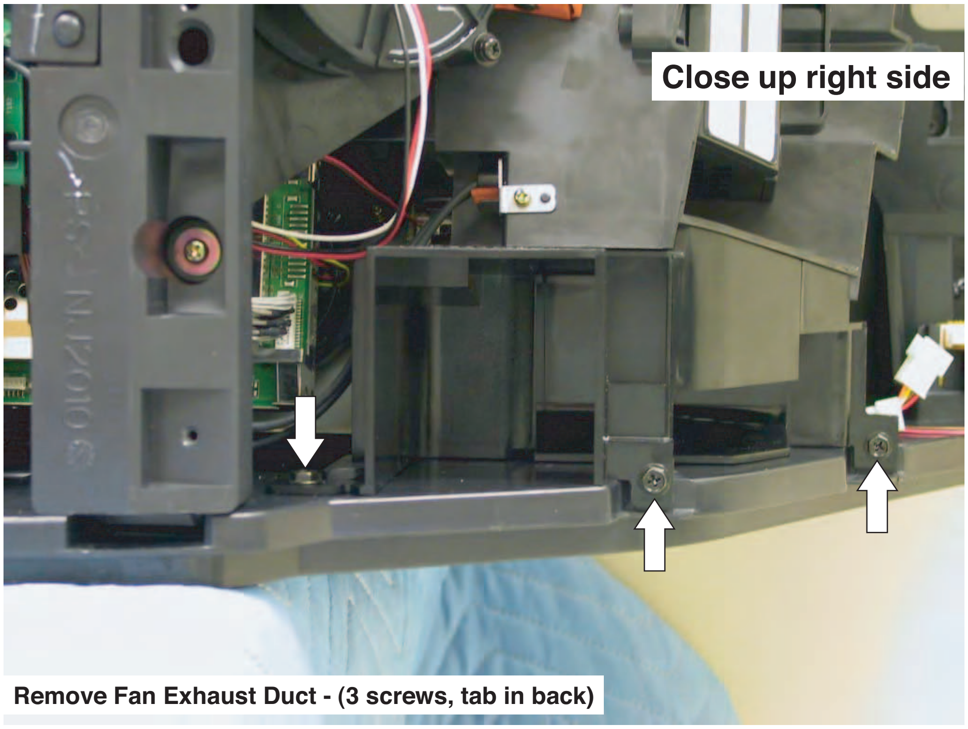
Remove left side screws (3)

Close up left side



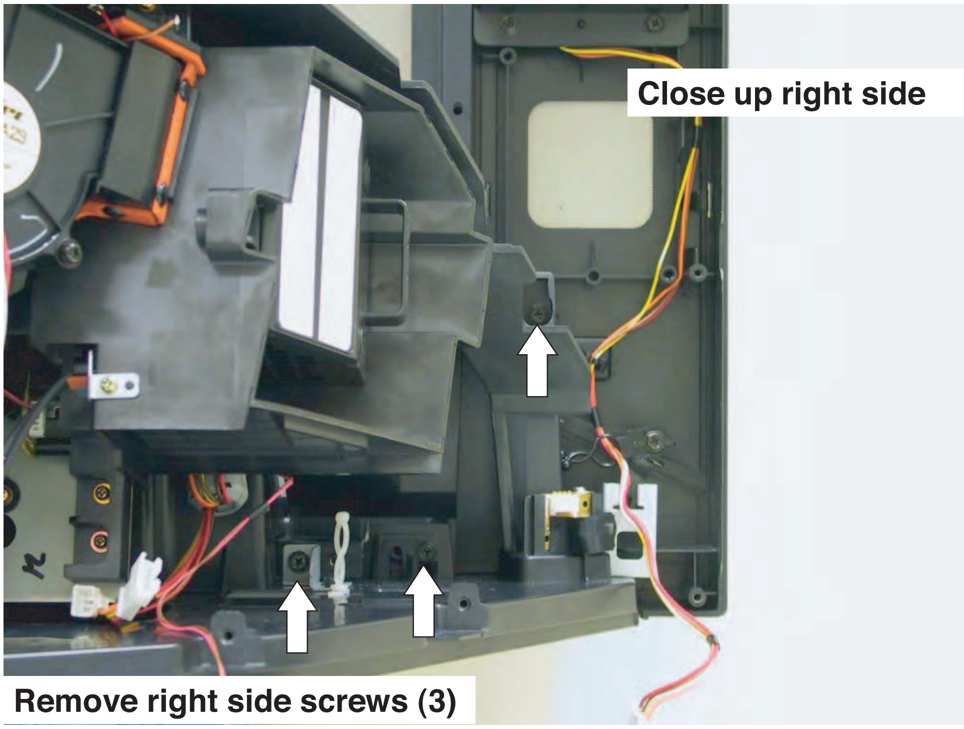
3 screws removed

Slide bar towards left



Close up right side

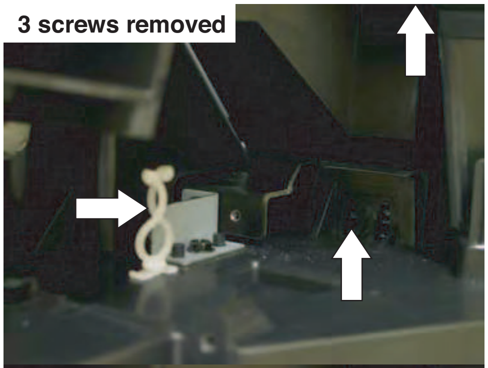
Remove Fan Exhaust Duct - (3 screws, tab in back)

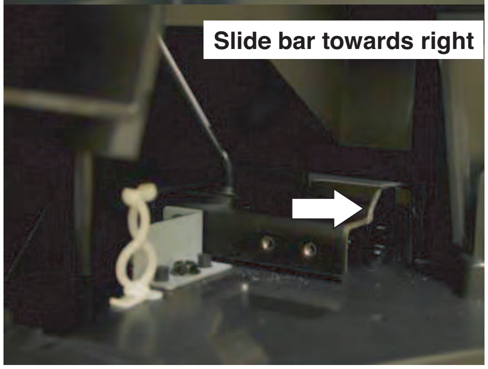


Close up right side

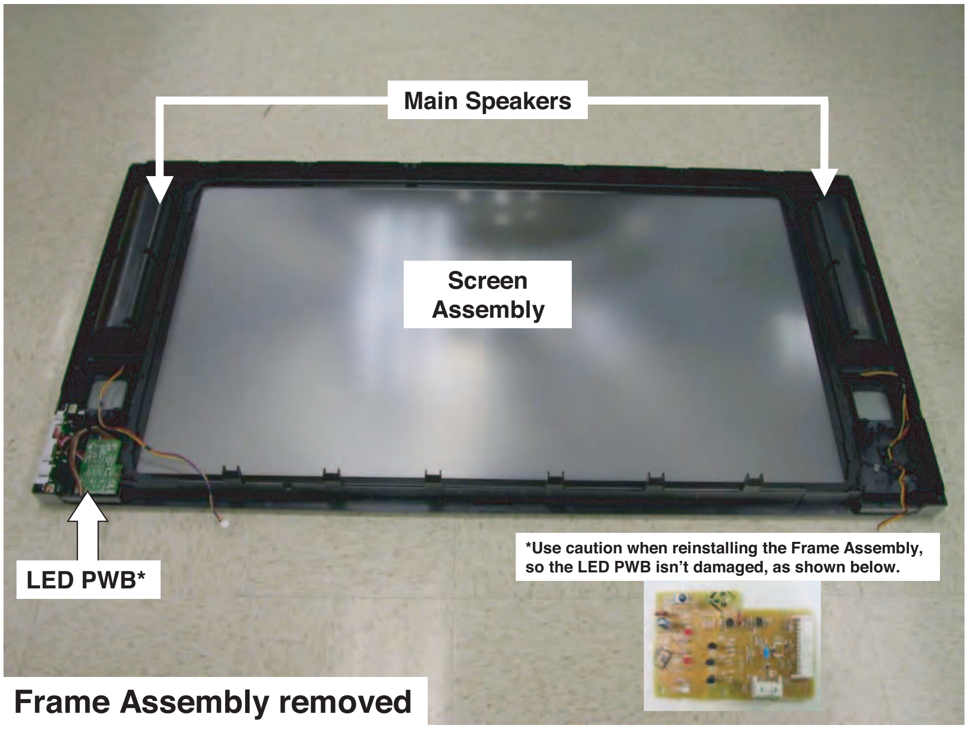
Remove right side screws (3)

Close up right side


3 screws removed


Slide bar towards right

When both sides have the 3 screws removed, and the locking bar shifted outwards, the frame assembly will be loose. Pull frame outwards from front.


Main Speakers
Screen Assembly
LED PWB*

*Use caution when reinstalling the Frame Assembly, so the LED PWB isn't damaged, as shown below.

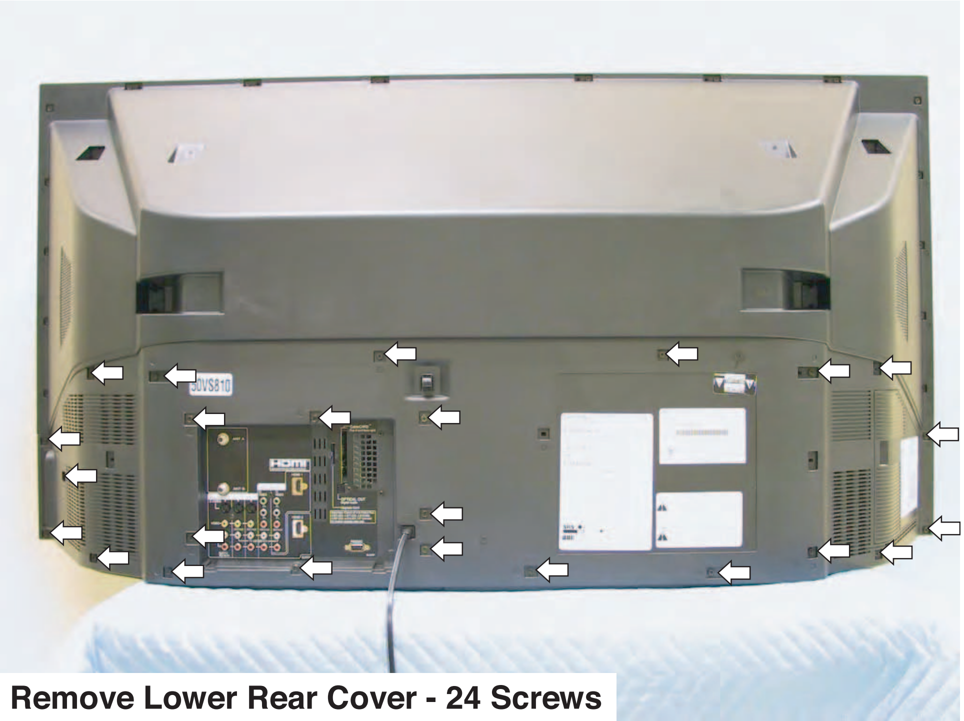
Frame Assembly removed

Re-assemble in reverse order

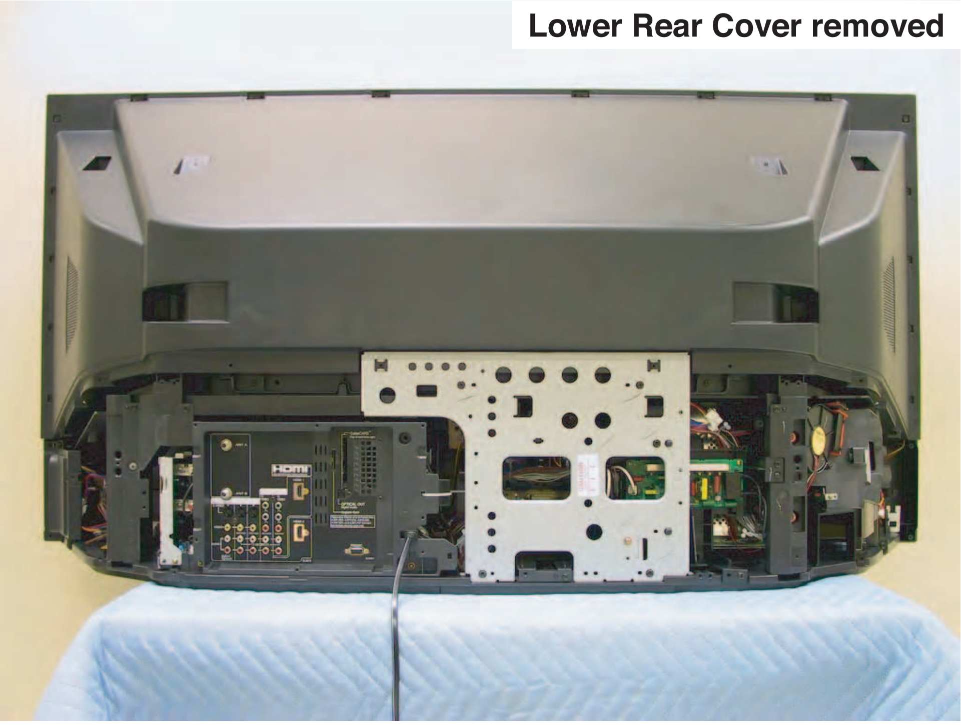
LC48 DISASSEMBLY

PROCEDURES

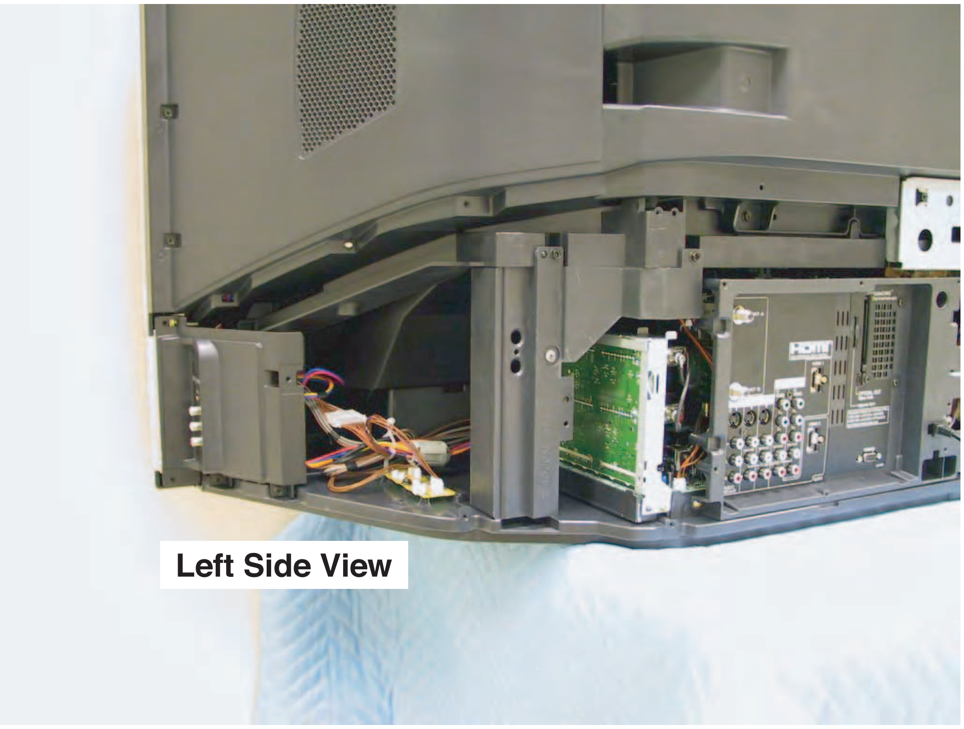
- **Chassis Assembly**
  - **Power PWB**
  - **Digital PWB**
  - **HDMI PWB**
  - **Tuner PWB**
  - **Signal PWB**
- **Optical Engine Assembly**
- **Top Assembly**



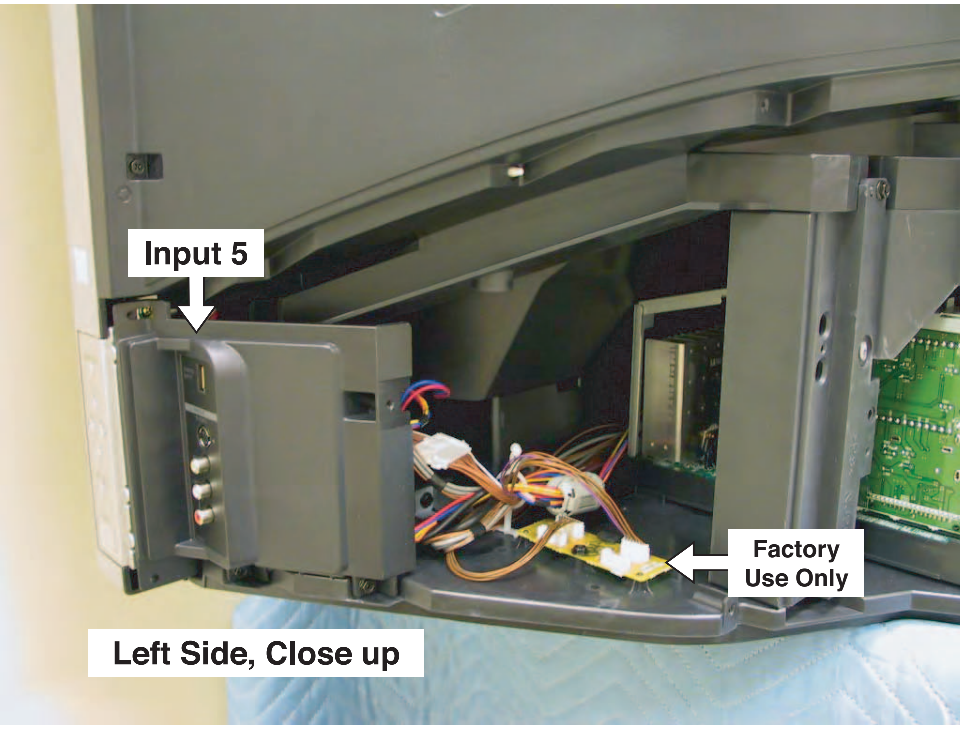
Remove Lower Rear Cover - 24 Screws



Lower Rear Cover removed



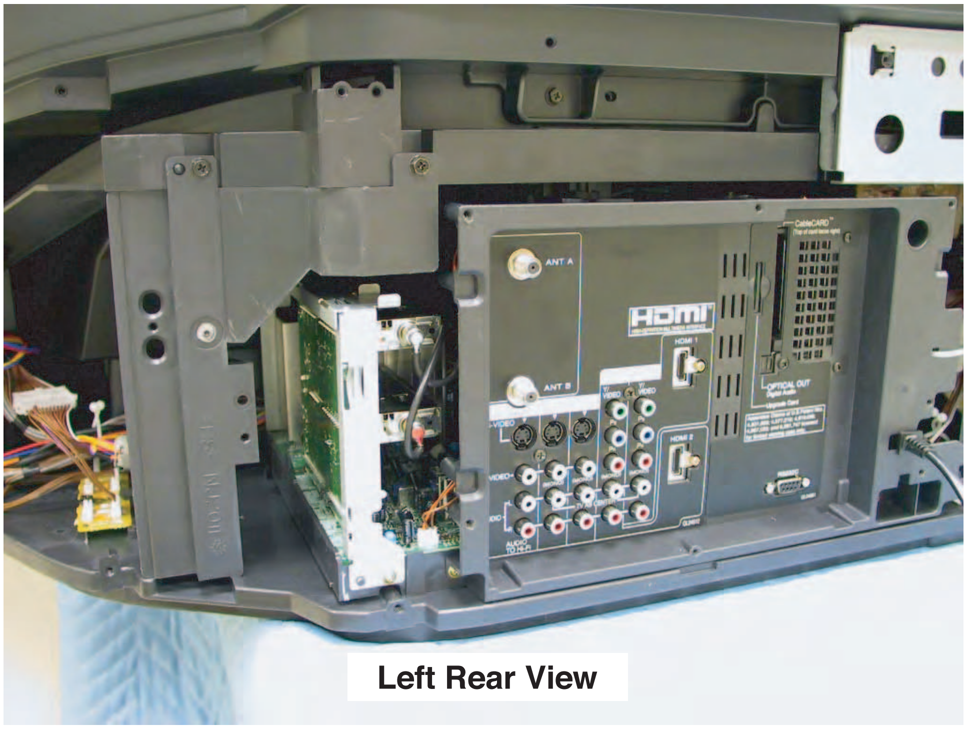
Left Side View



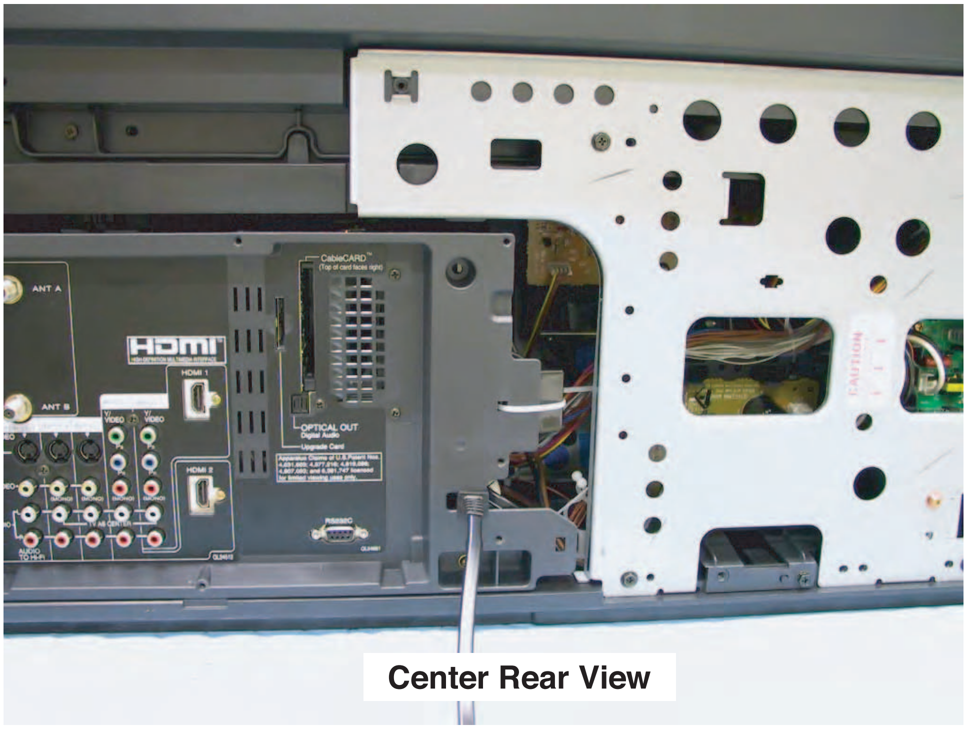
Input 5

Factory Use Only

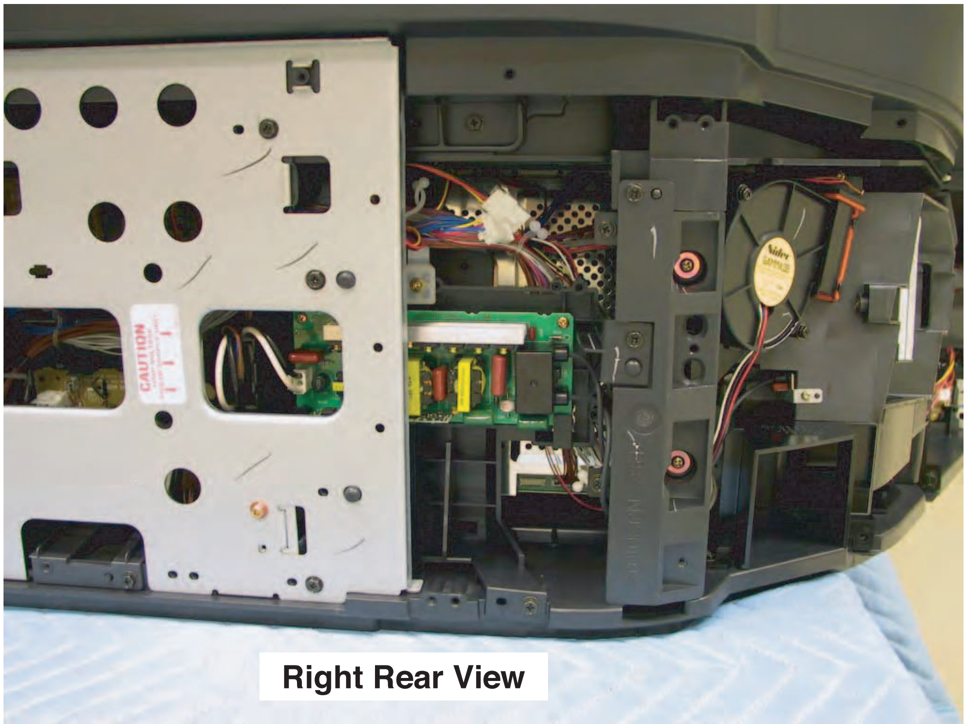
Left Side, Close up


ANT A
HDMI
HDMI 1
ANT B
S-VIDEO
VIDEO
AUDIO TO HI-FI
HDMI 2
CableCARD
OPTICAL OUT

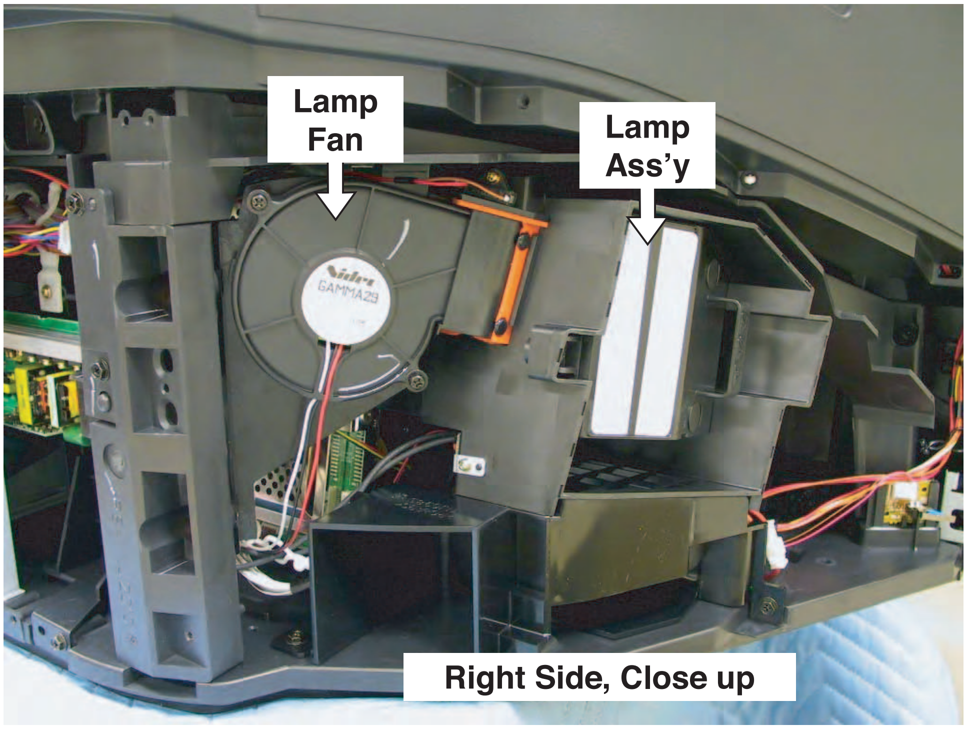
Left Rear View


ANT A
ANT B
HDMI
HDMI 1
HDMI 2
CableCARD™
OPTICAL OUT
Digital Audio
Upgrade Card
RS232C
AUDIO TO HI-FI
CAUTION

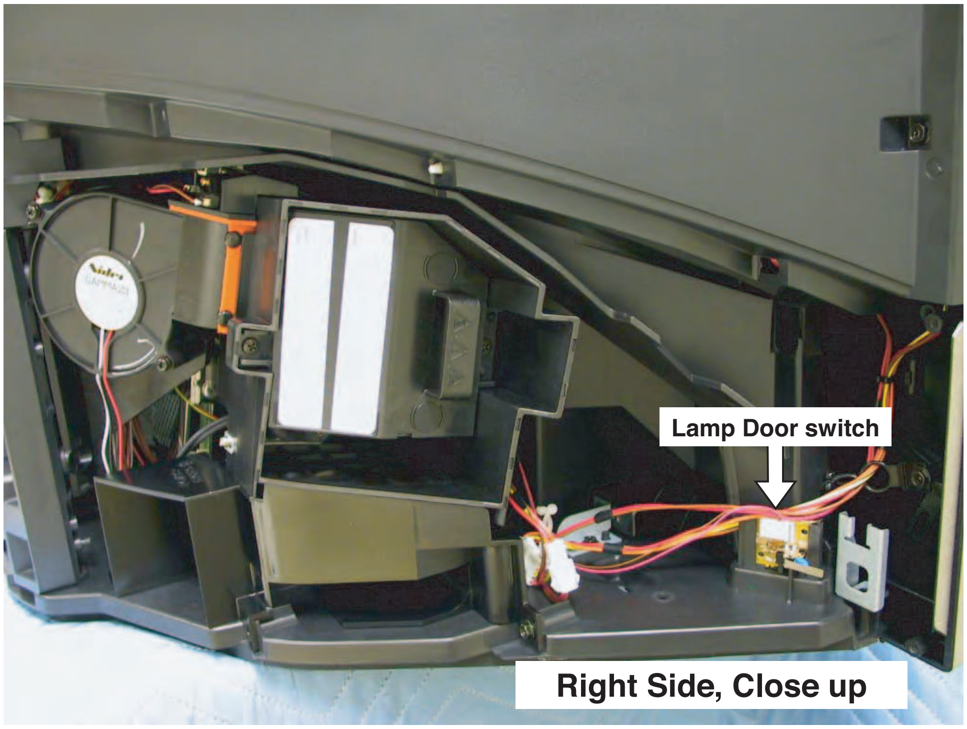
Center Rear View



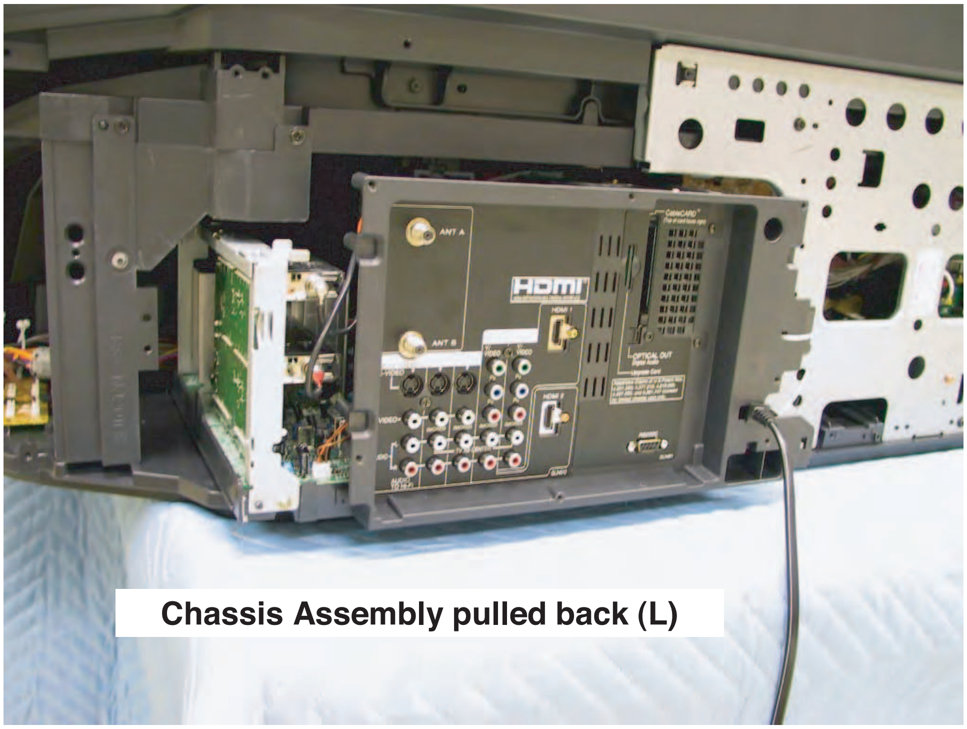
Right Rear View


Lamp Fan
Lamp Ass'y

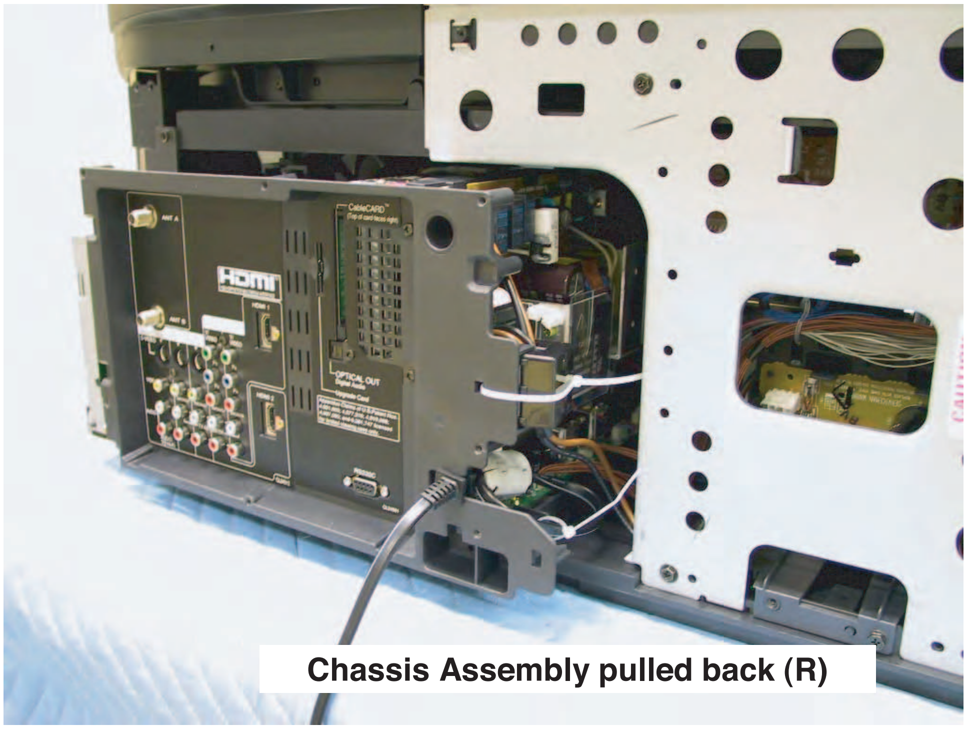
Right Side, Close up


Lamp Door switch

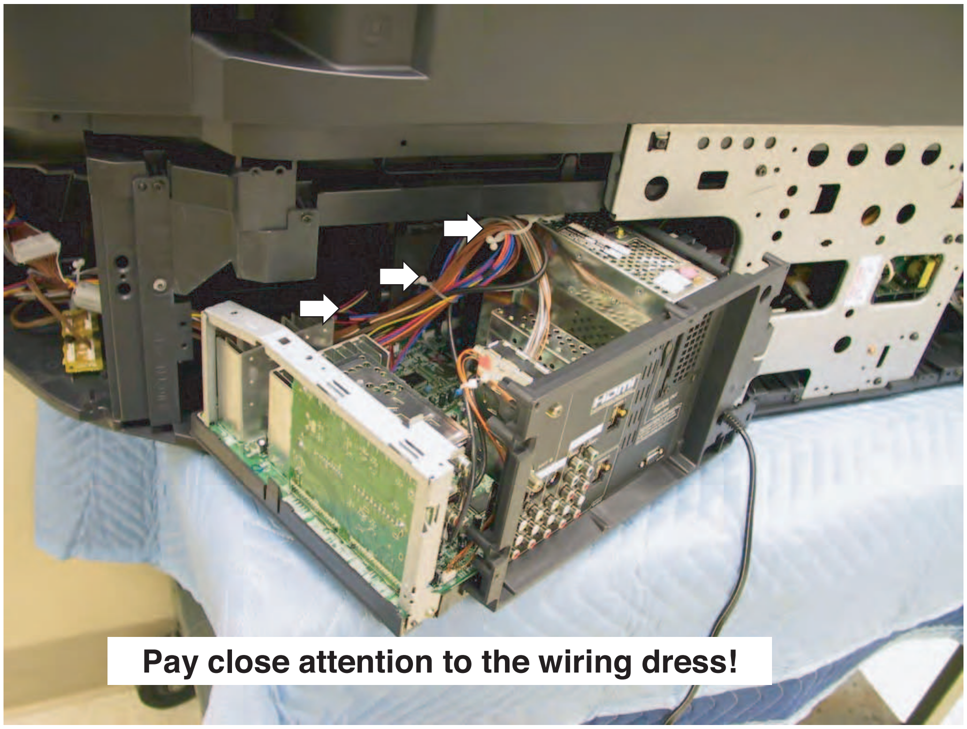
Right Side, Close up



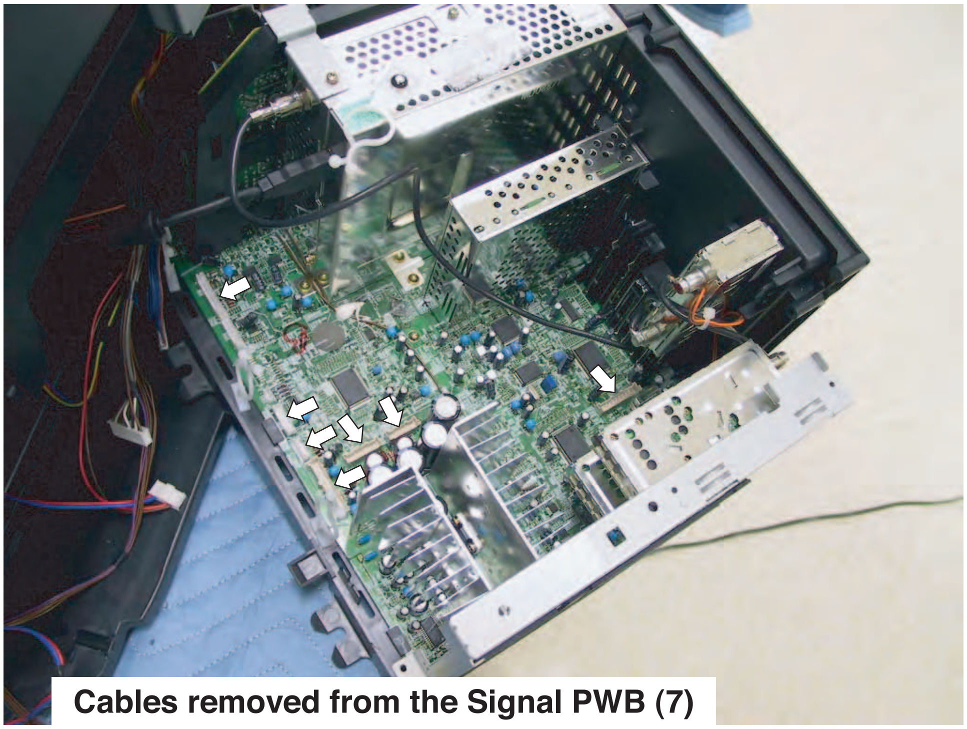
Chassis Assembly pulled back (L)



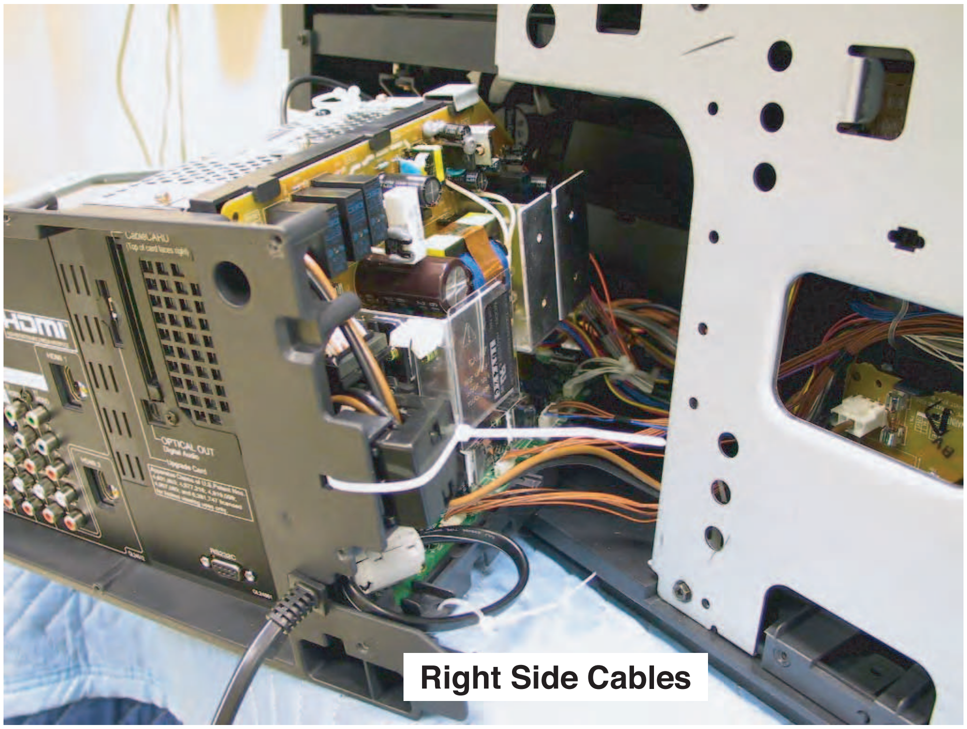
Chassis Assembly pulled back (R)



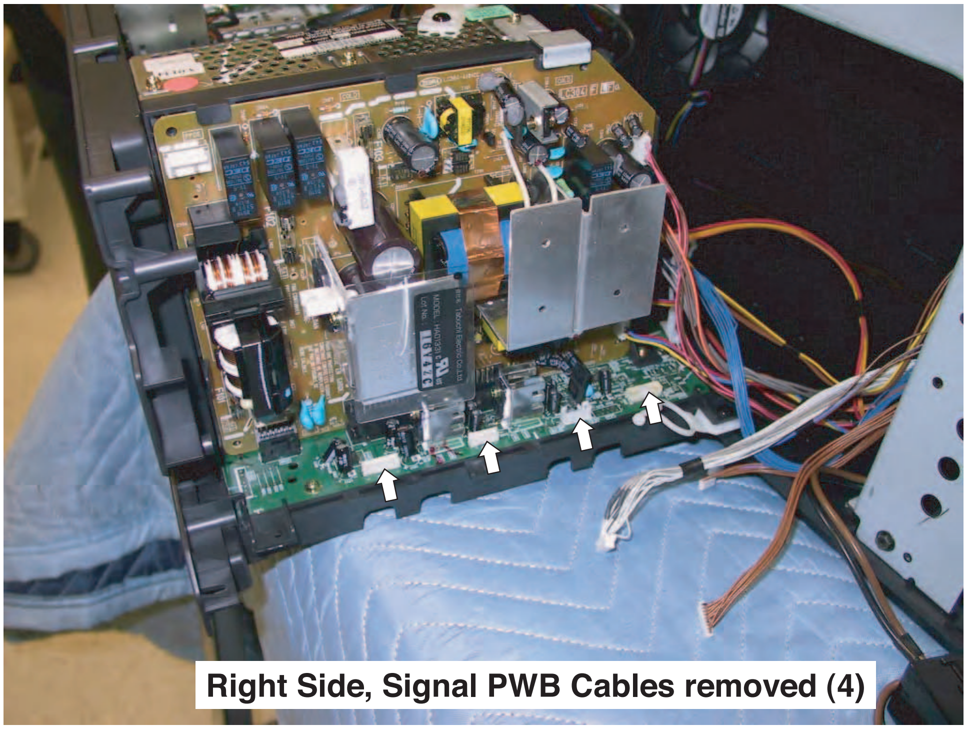
Pay close attention to the wiring dress!



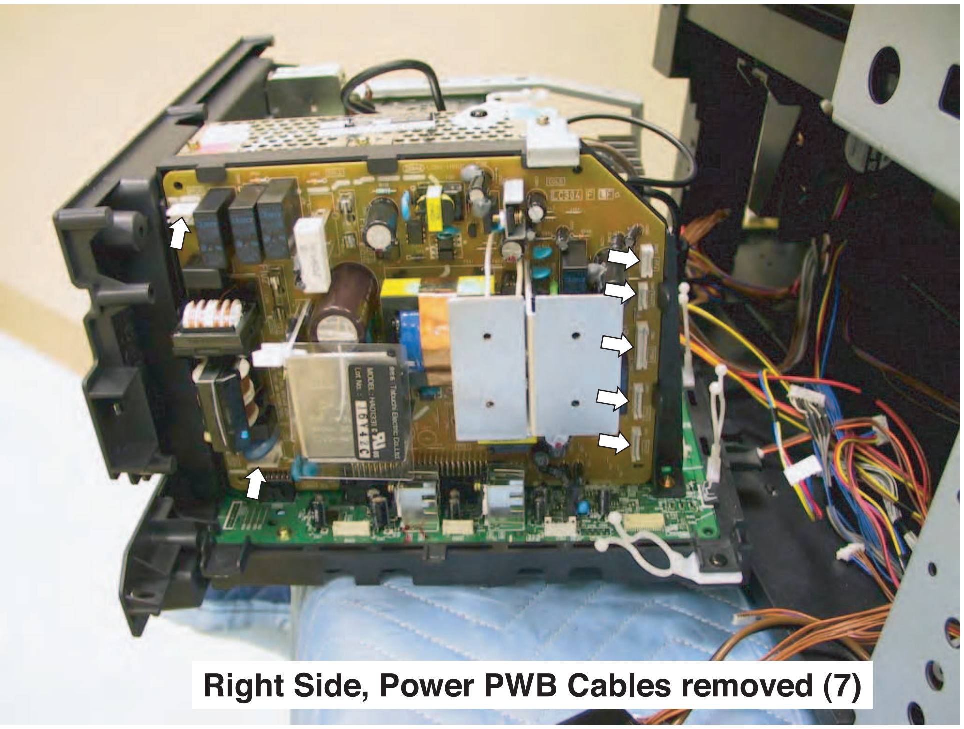
Cables removed from the Signal PWB (7)

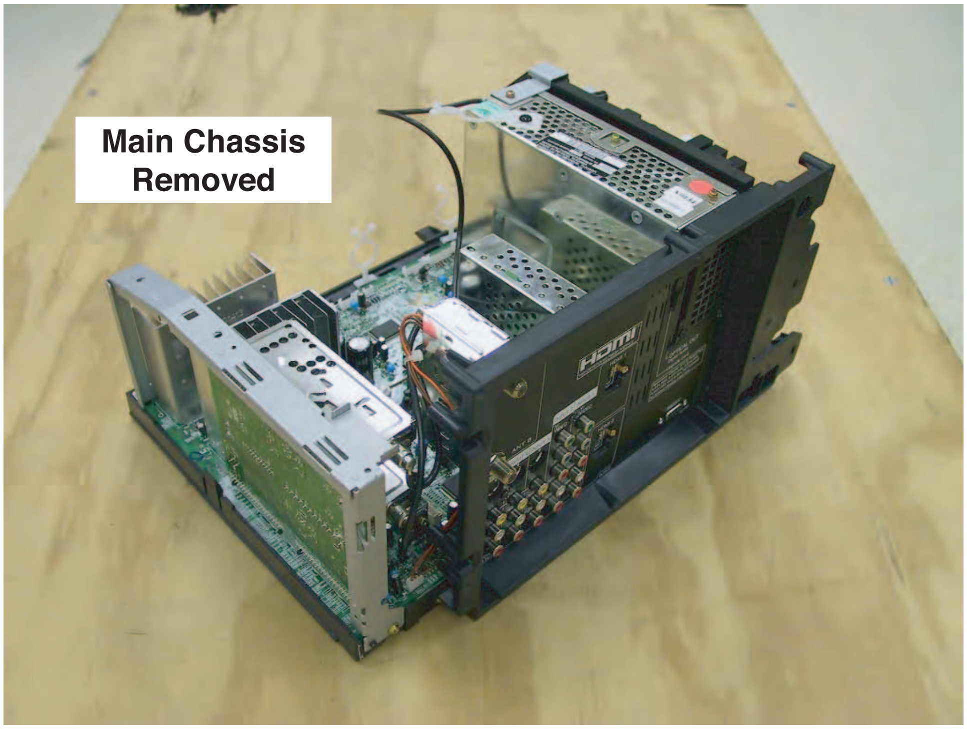

HDMI
OPTICAL OUT

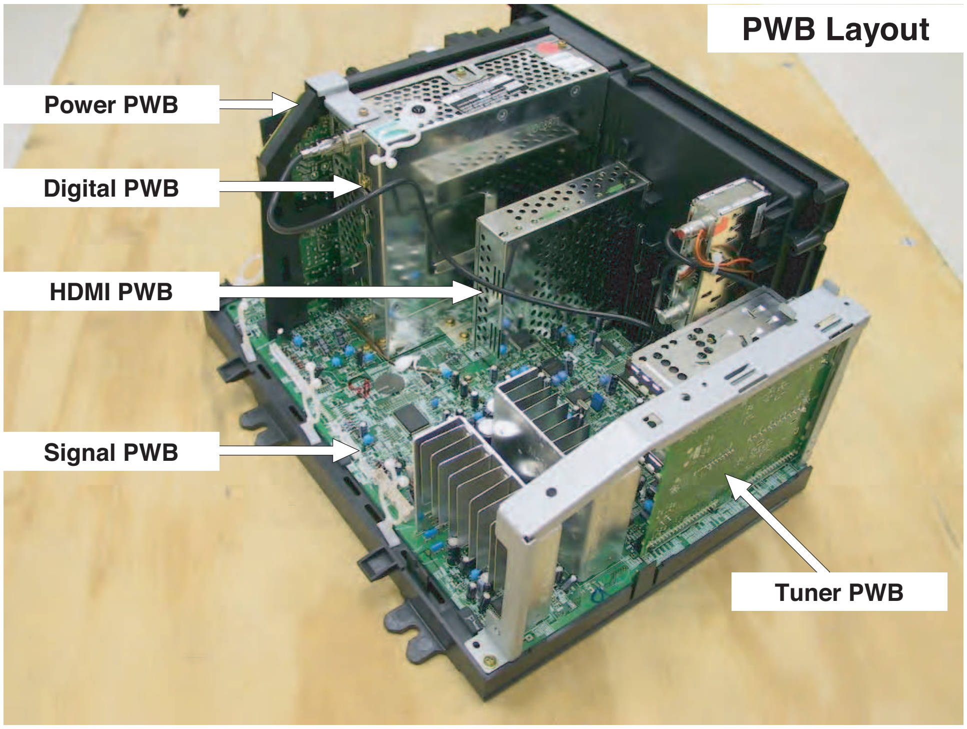
Right Side Cables



Right Side, Signal PWB Cables removed (4)

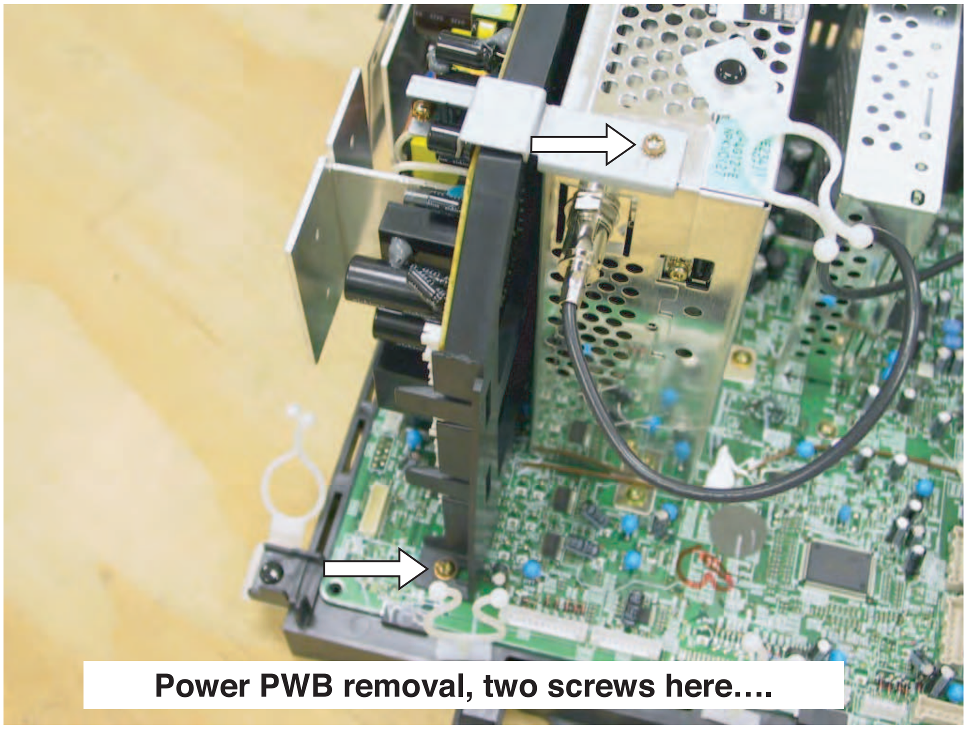

Right Side, Power PWB Cables removed (7)


Main Chassis Removed

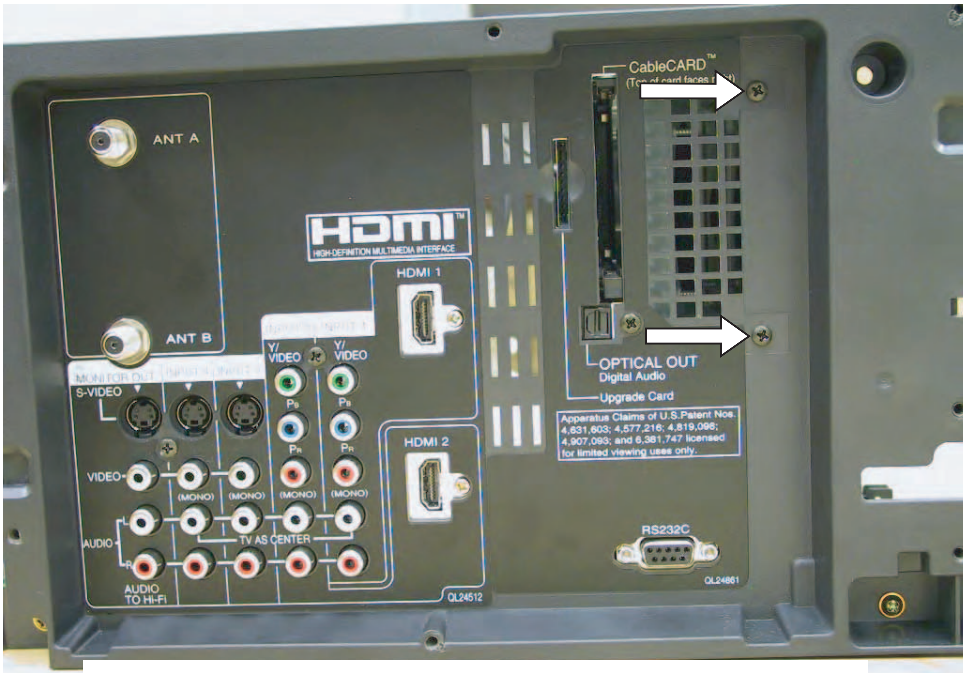


PWB Layout

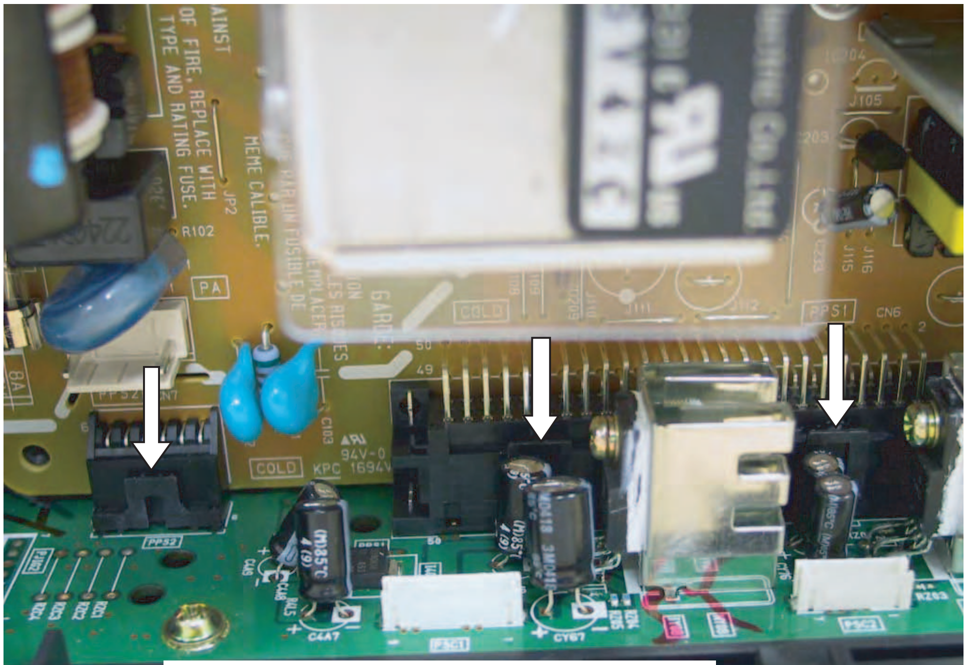
Power PWB
Digital PWB
HDMI PWB
Signal PWB
Tuner PWB



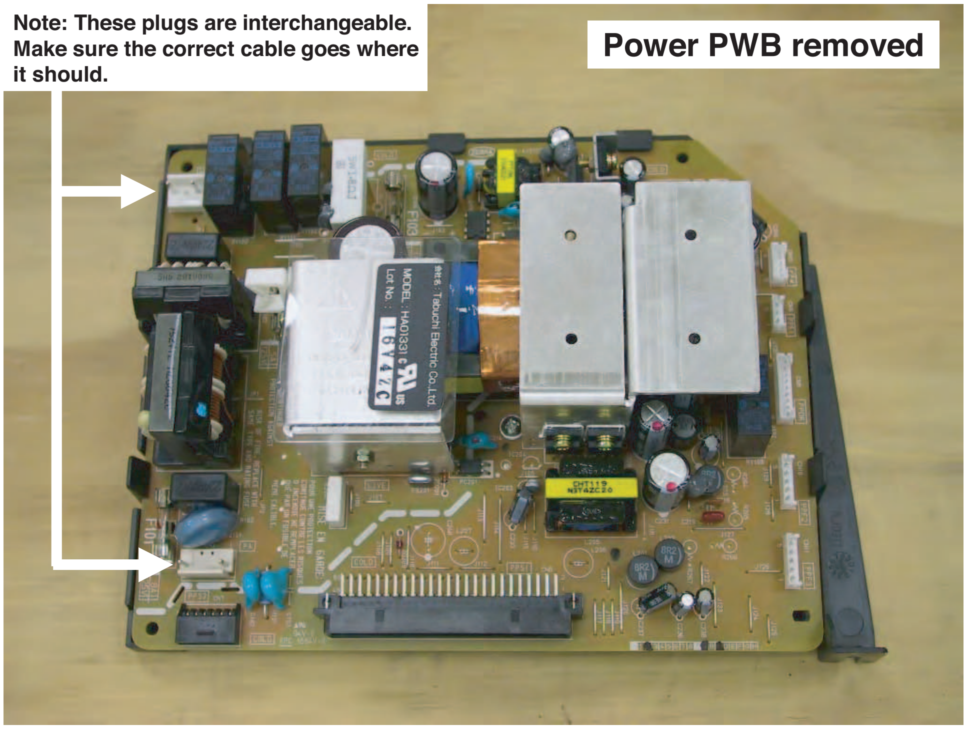
Power PWB removal, two screws here….


ANT A
ANT B
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
HDMI 2
S-VIDEO
VIDEO
AUDIO
AUDIO TO Hi-Fi
TV AS CENTER
(MONO)
Y/ VIDEO
PB
PR
CableCARD™
OPTICAL OUT
Digital Audio
Upgrade Card
RS232C
QL24512
QL24861

Power PWB removal, two more screws here.

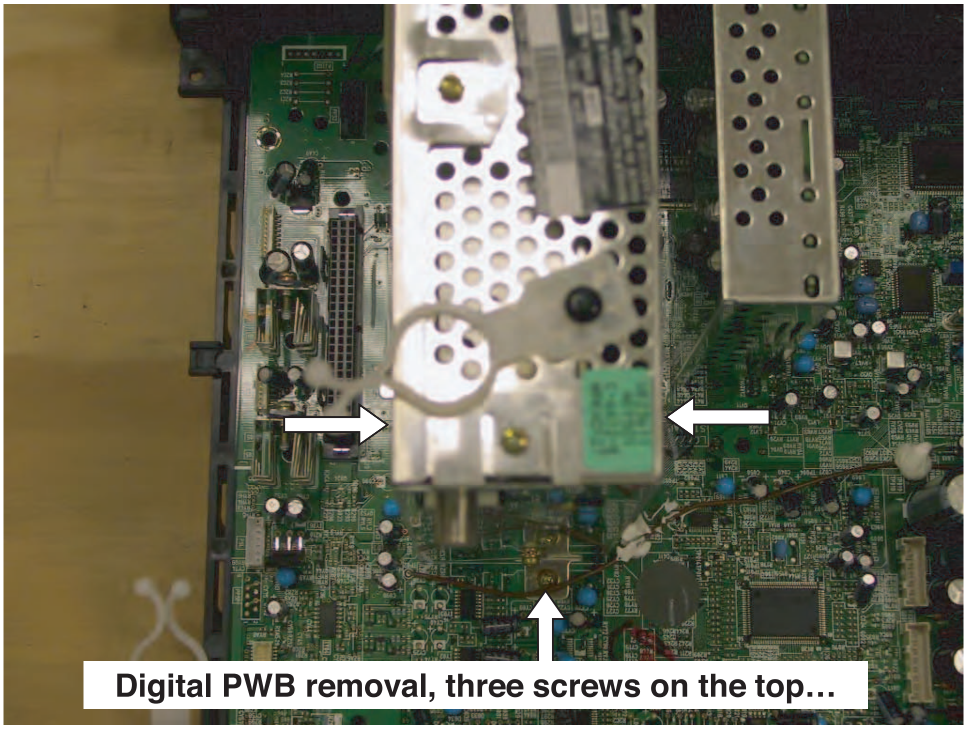


Power PWB removal, three latches

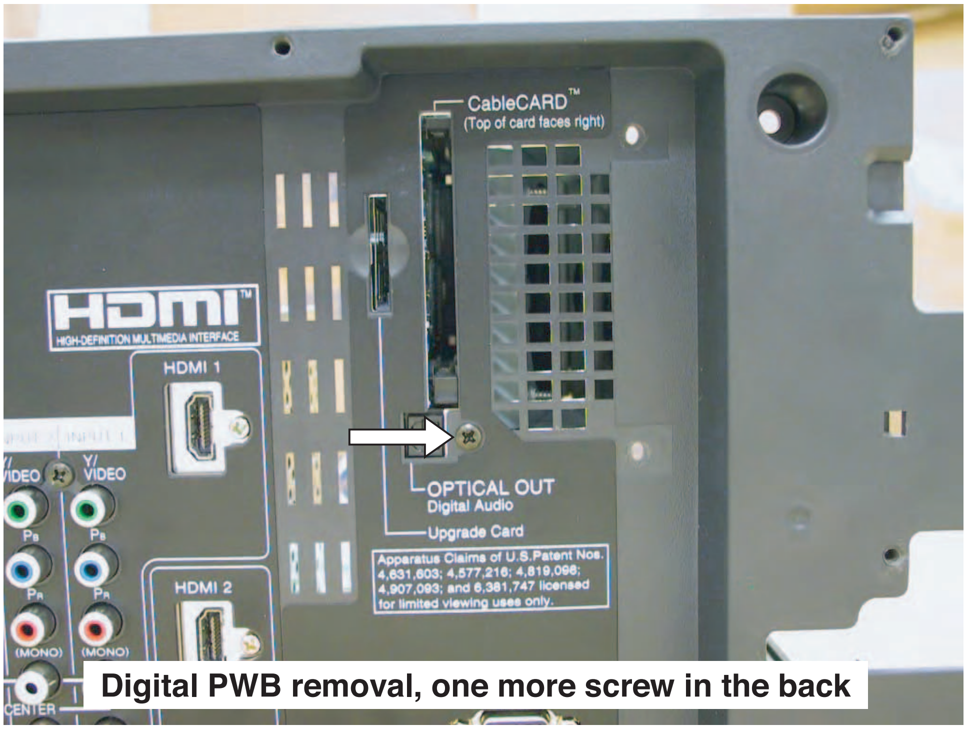


Note: These plugs are interchangeable. Make sure the correct cable goes where it should.

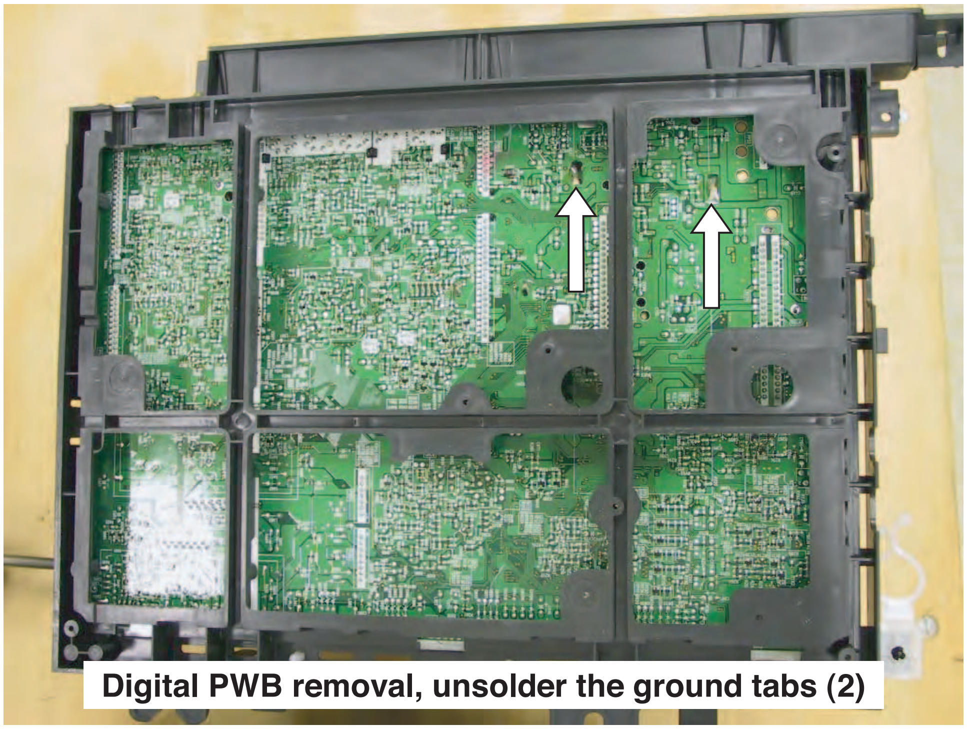
Power PWB removed



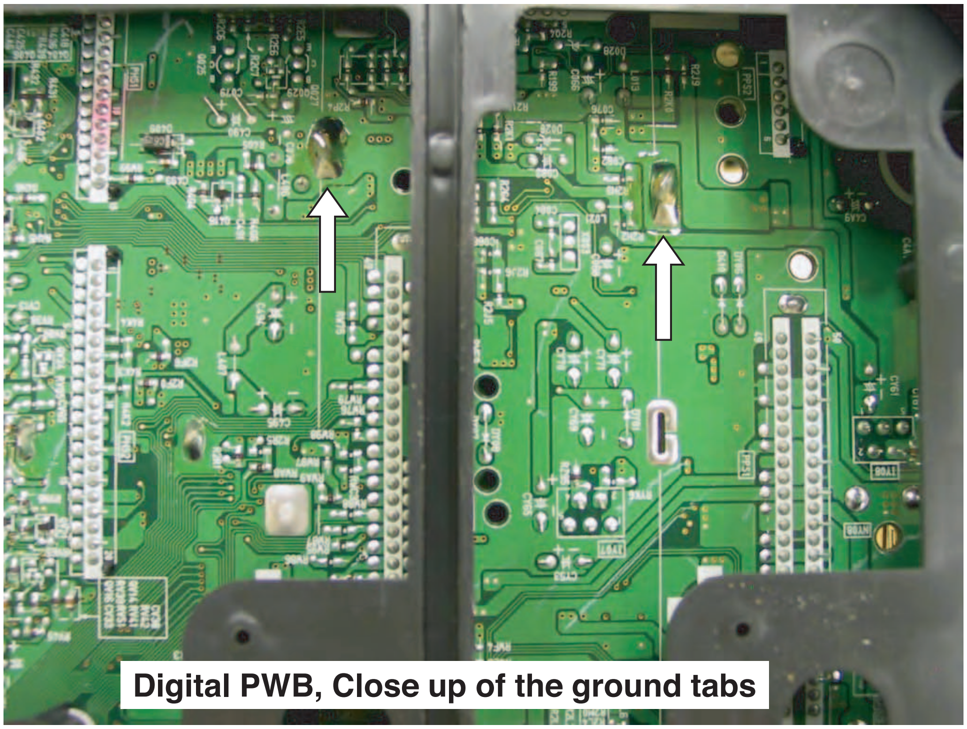
Digital PWB removal, three screws on the top…


CableCARD™
(Top of card faces right)
HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
Y/ VIDEO
Y/ VIDEO
PB
PB
PR
PR
(MONO)
(MONO)
CENTER
HDMI 2
OPTICAL OUT
Digital Audio
Upgrade Card
Apparatus Claims of U.S.Patent Nos. 4,631,603; 4,577,216; 4,819,098; 4,907,093; and 6,381,747 licensed for limited viewing uses only.

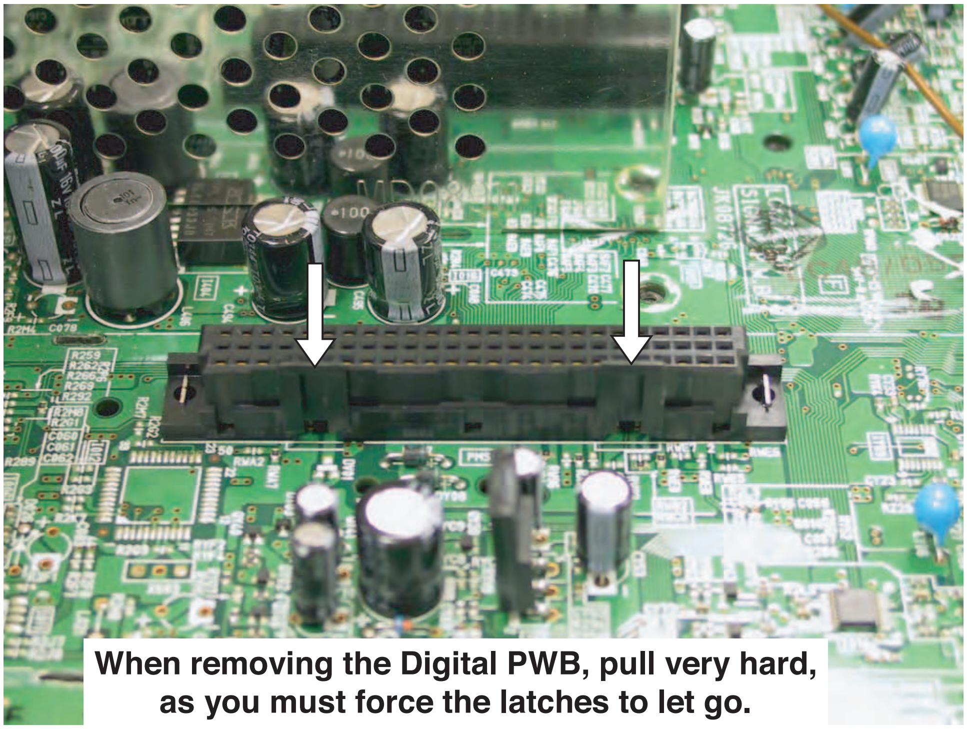
Digital PWB removal, one more screw in the back



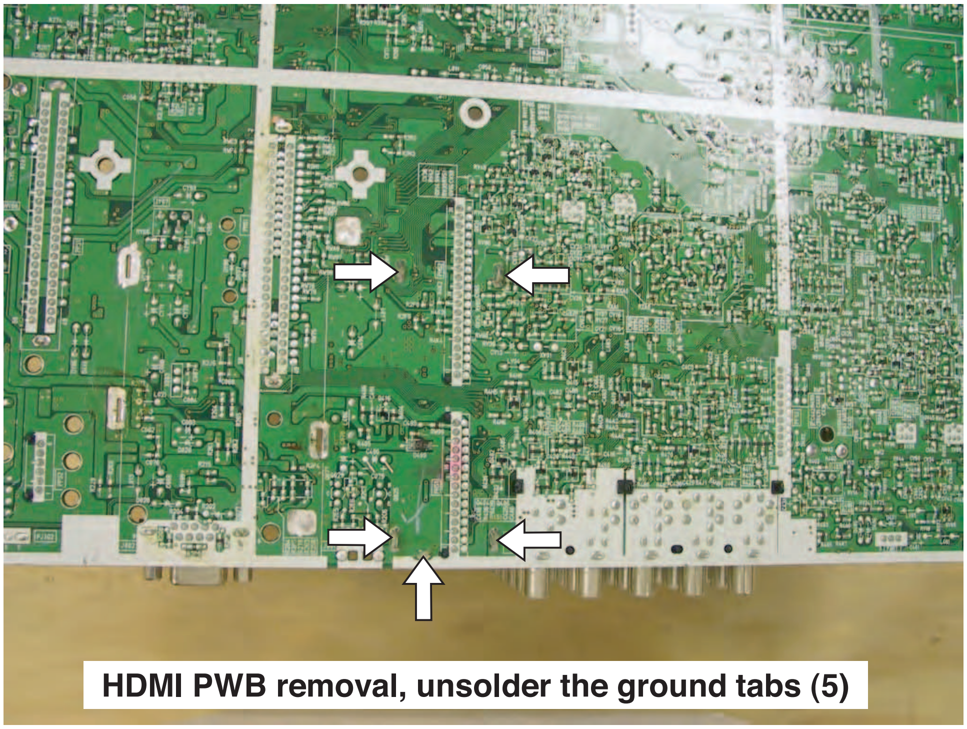
Digital PWB removal, unsolder the ground tabs (2)



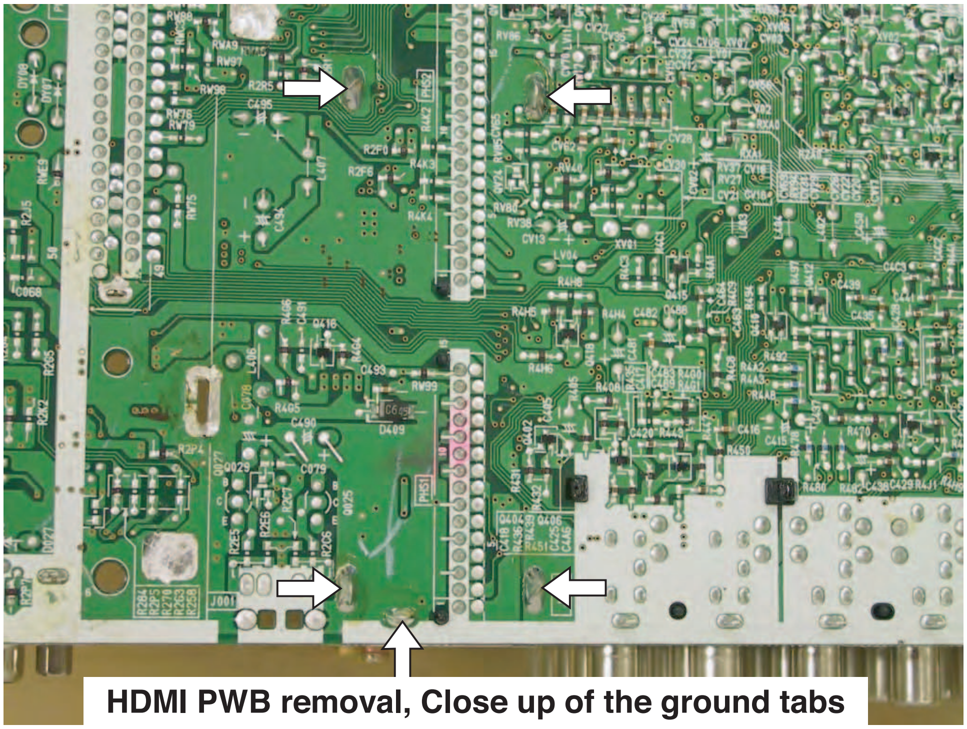
Digital PWB, Close up of the ground tabs



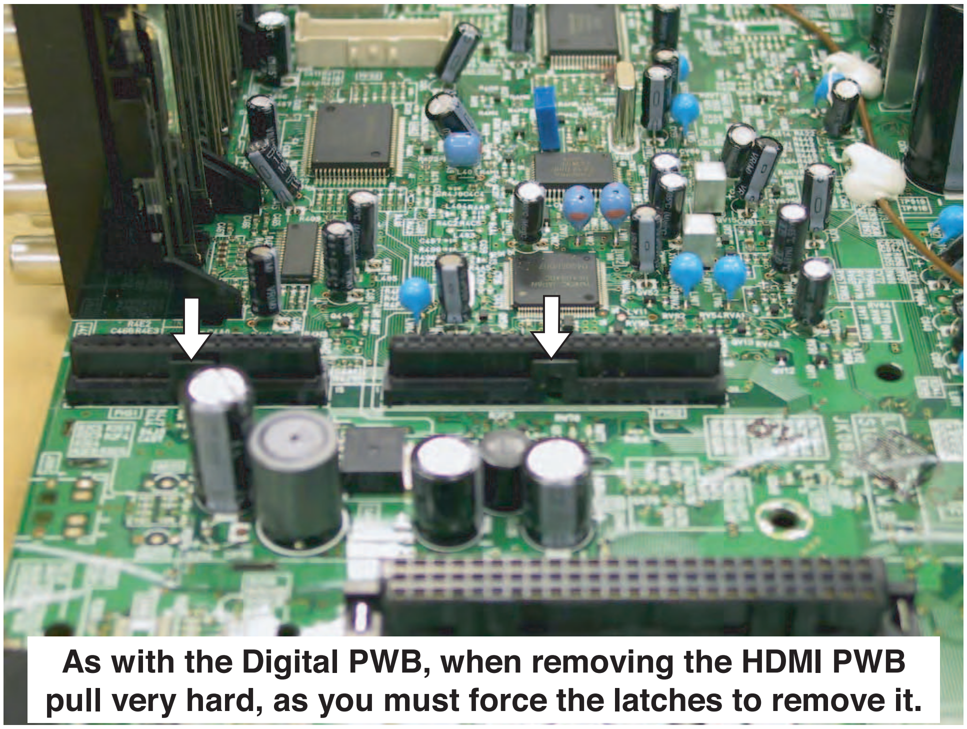
When removing the Digital PWB, pull very hard, as you must force the latches to let go.



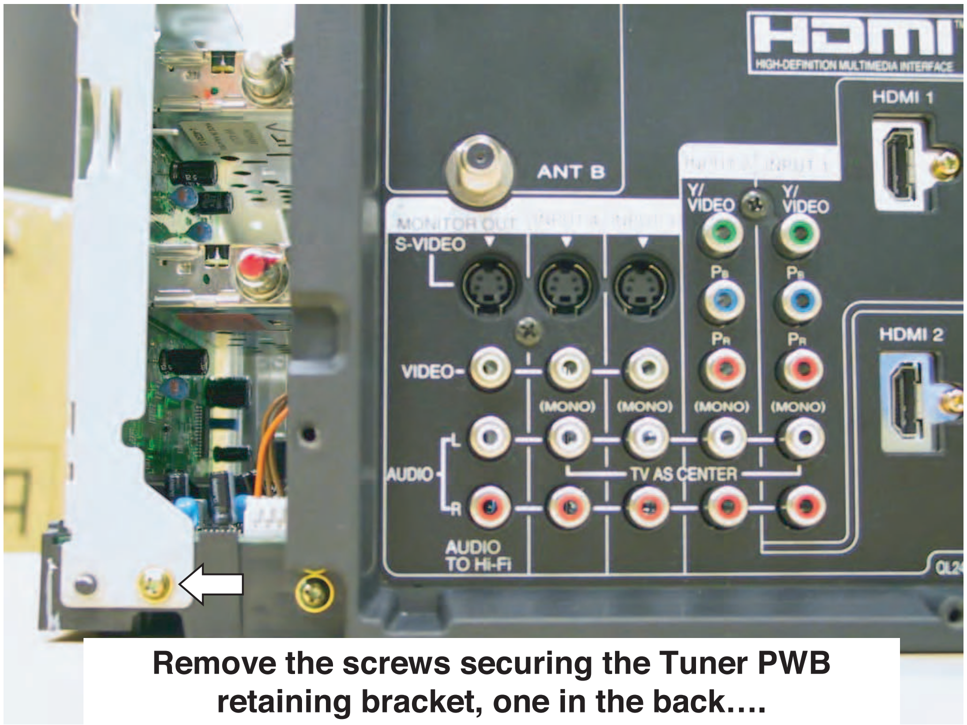
HDMI PWB removal, unsolder the ground tabs (5)



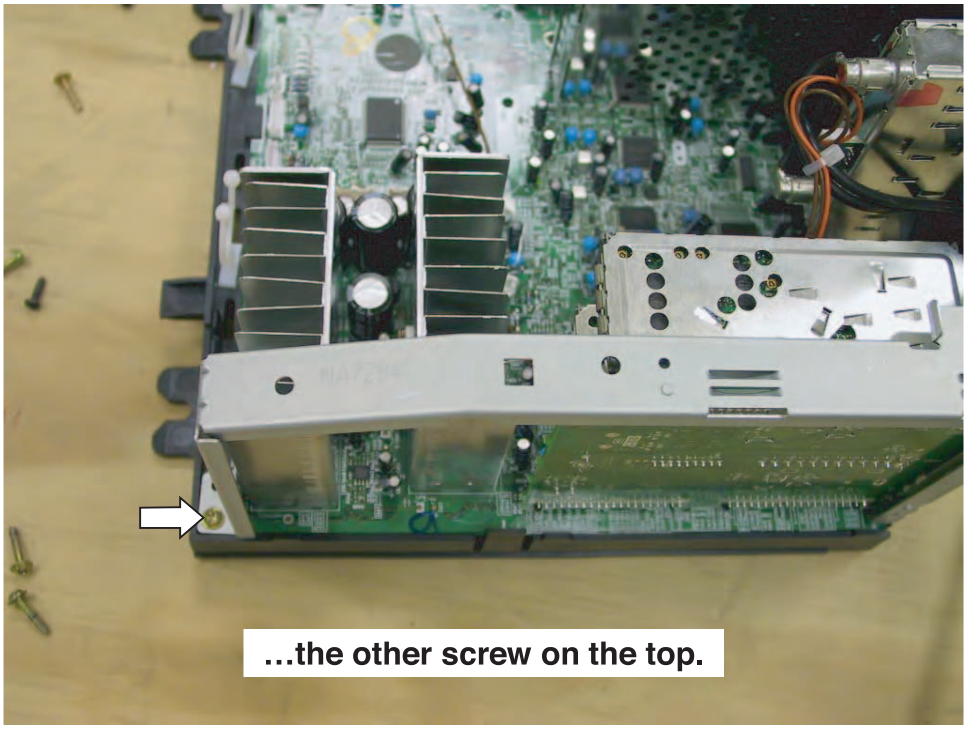
HDMI PWB removal, Close up of the ground tabs



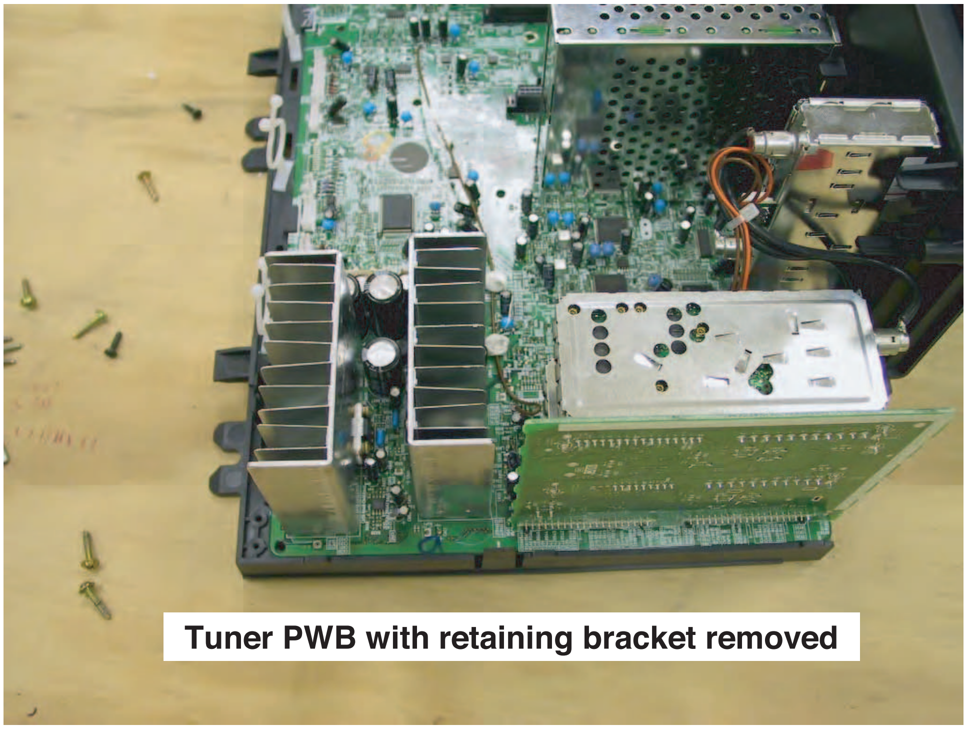
As with the Digital PWB, when removing the HDMI PWB pull very hard, as you must force the latches to remove it.


HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE
HDMI 1
ANT B
INPUT 2 INPUT 1
Y/ VIDEO
Y/ VIDEO
MONITOR OUT INPUT 4 INPUT 3
S-VIDEO
PB
PB
PR
PR
VIDEO
(MONO) (MONO) (MONO) (MONO)
AUDIO
L
R
TV AS CENTER
AUDIO TO Hi-Fi
HDMI 2

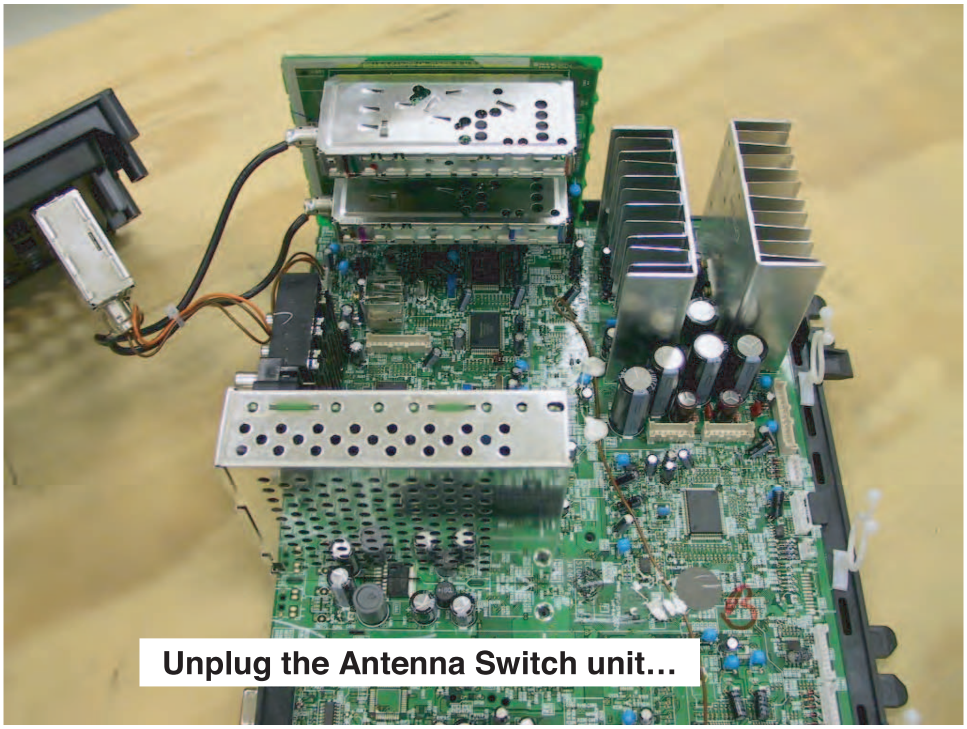
Remove the screws securing the Tuner PWB retaining bracket, one in the back….



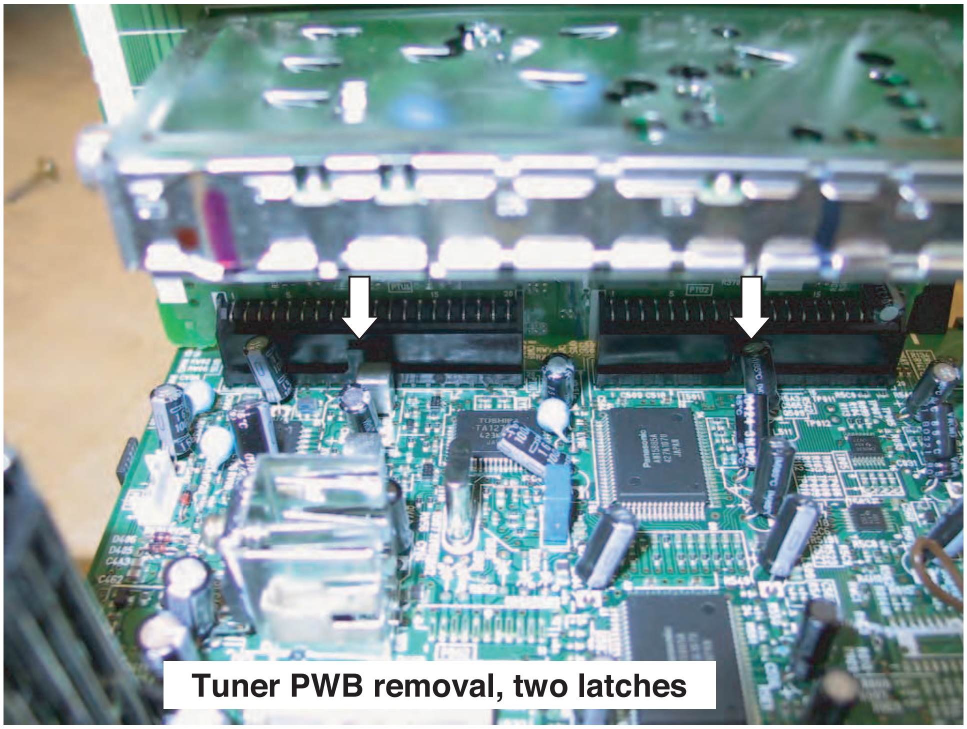
…the other screw on the top.



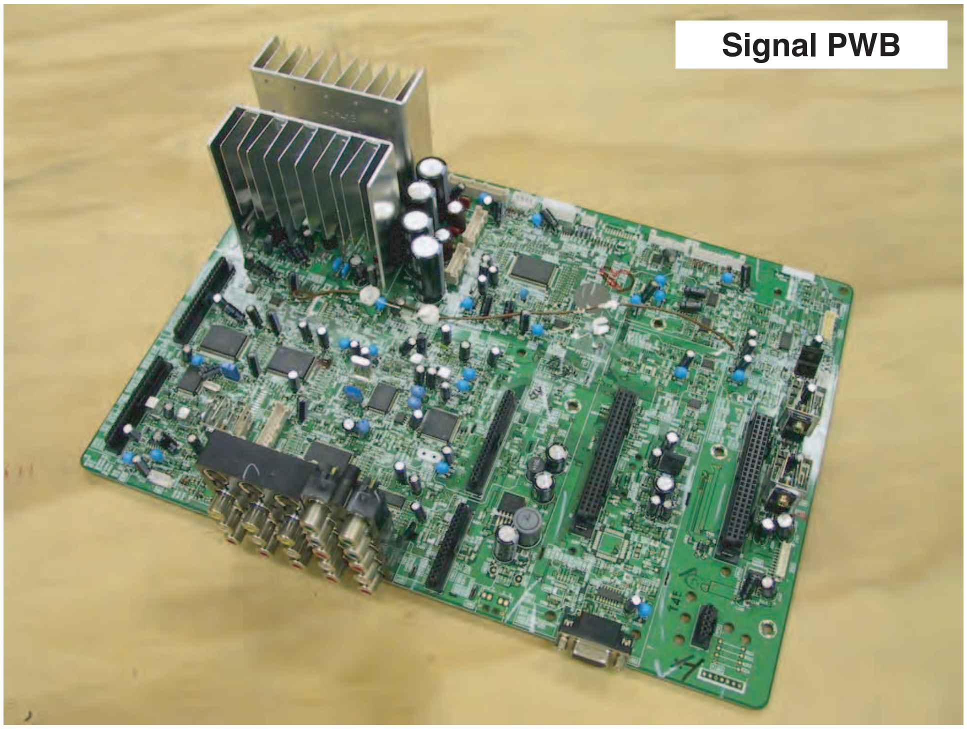
Tuner PWB with retaining bracket removed

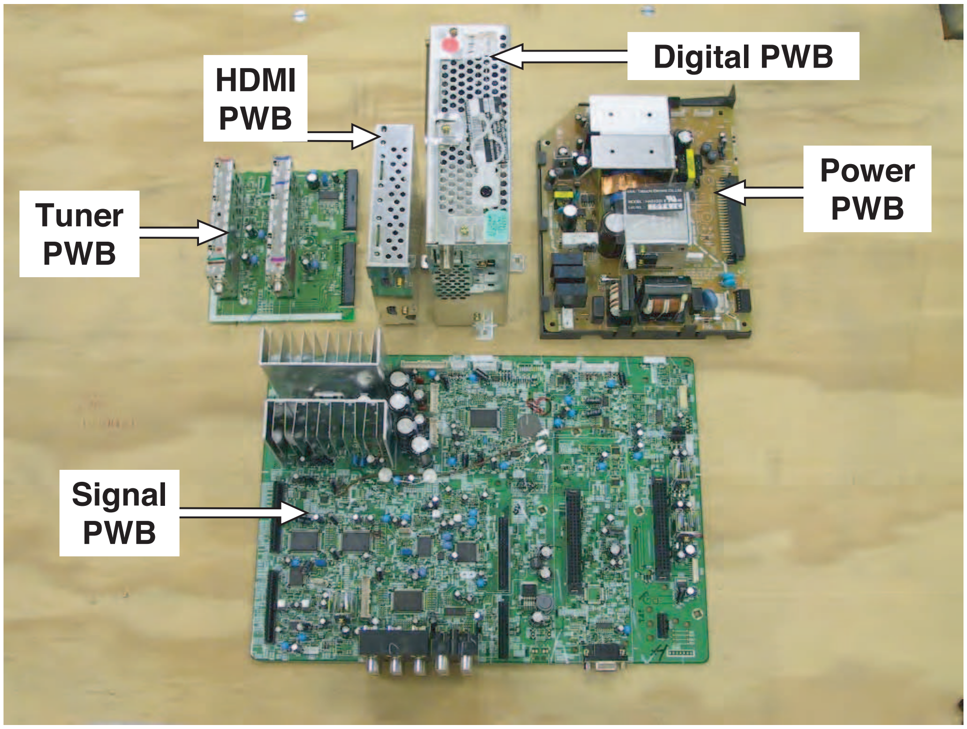


Unplug the Antenna Switch unit…



Tuner PWB removal, two latches


Signal PWB

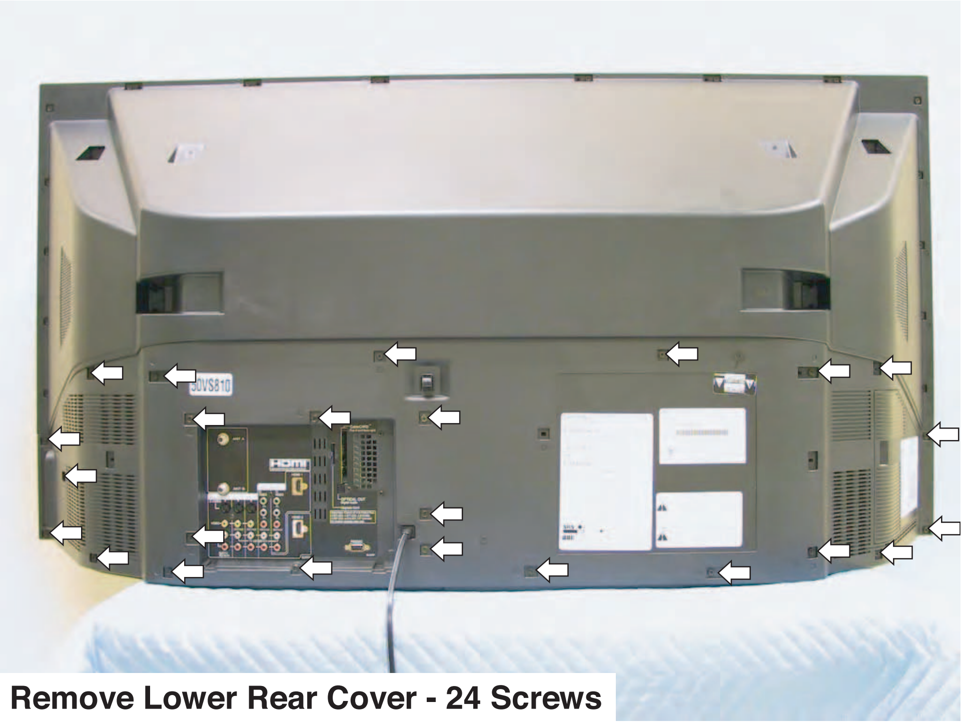

Digital PWB
HDMI PWB
Power PWB
Tuner PWB
Signal PWB

Re-assemble in reverse order

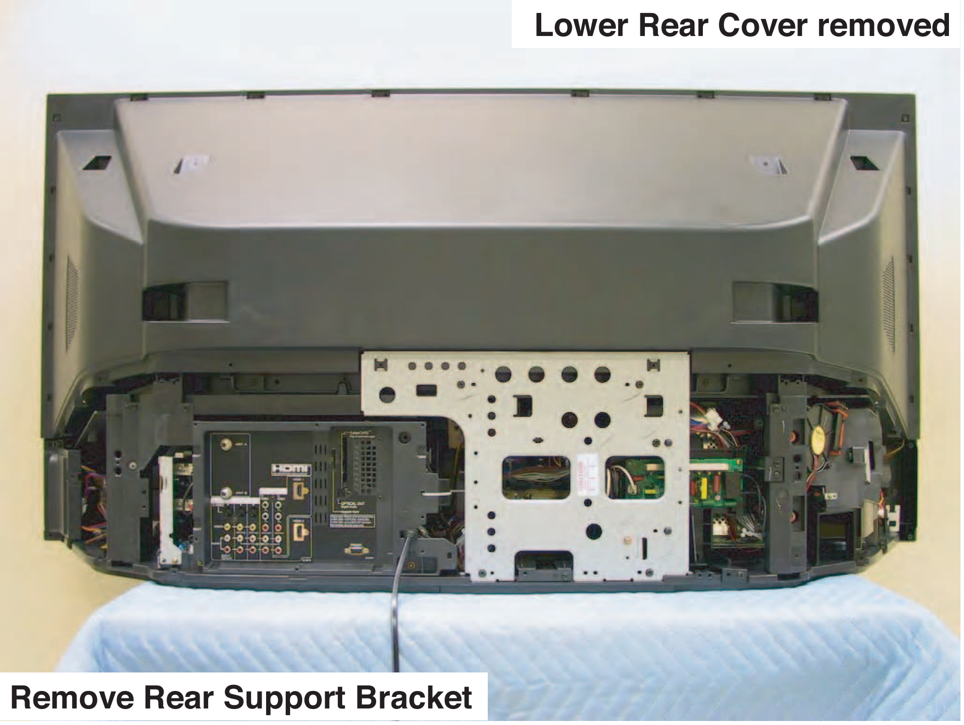
LC48 DISASSEMBLY

PROCEDURES

- Chassis Assembly
- Optical Engine Assembly
  - Rear Support Bracket
  - Lamp Ballast PWB
  - Optical Engine
- Top Assembly

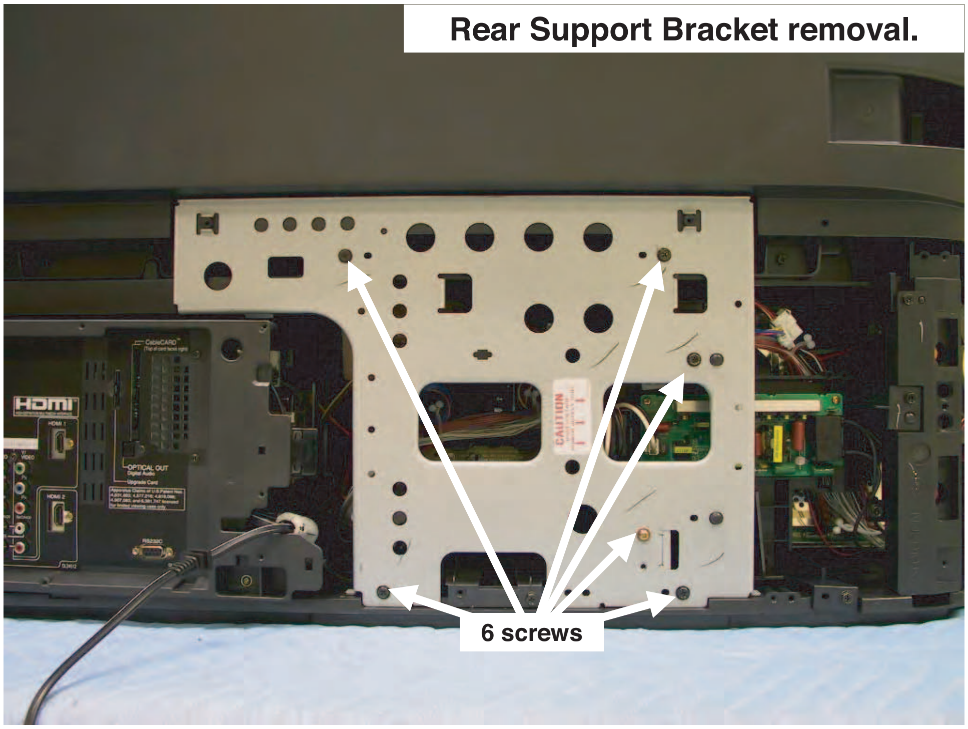


Remove Lower Rear Cover - 24 Screws



Lower Rear Cover removed

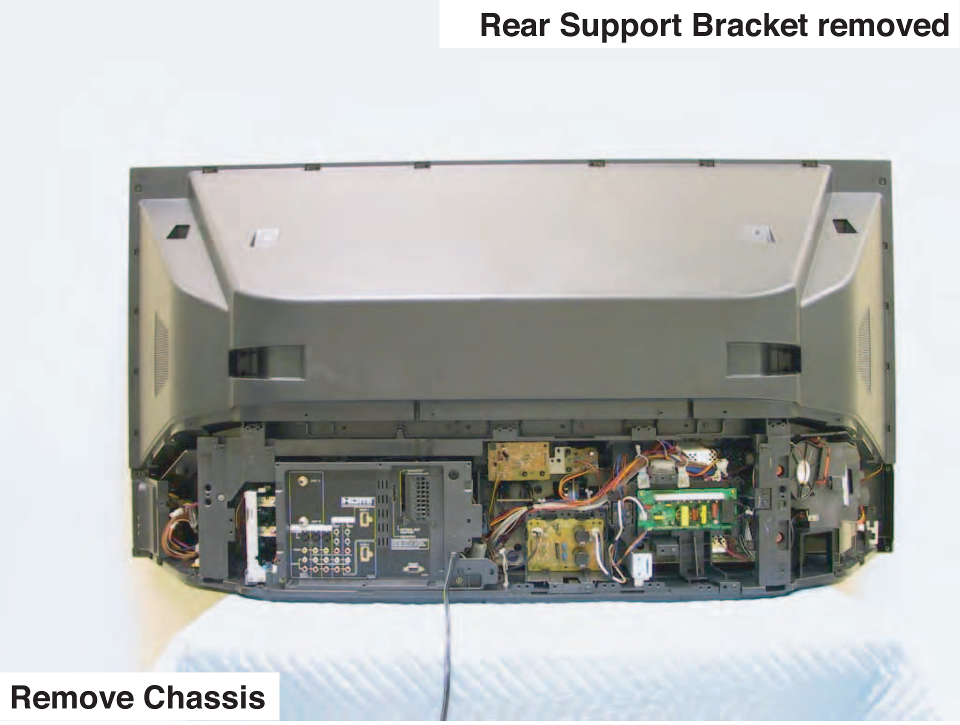
Remove Rear Support Bracket



Rear Support Bracket removal.

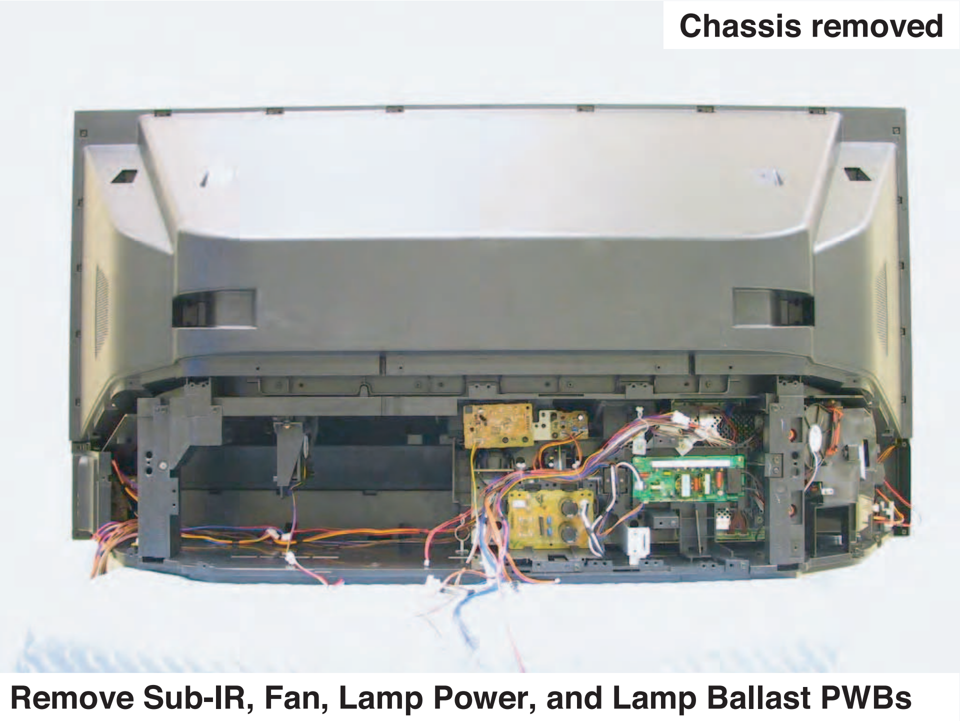
6 screws

HDMI
CAUTION
OPTICAL OUT



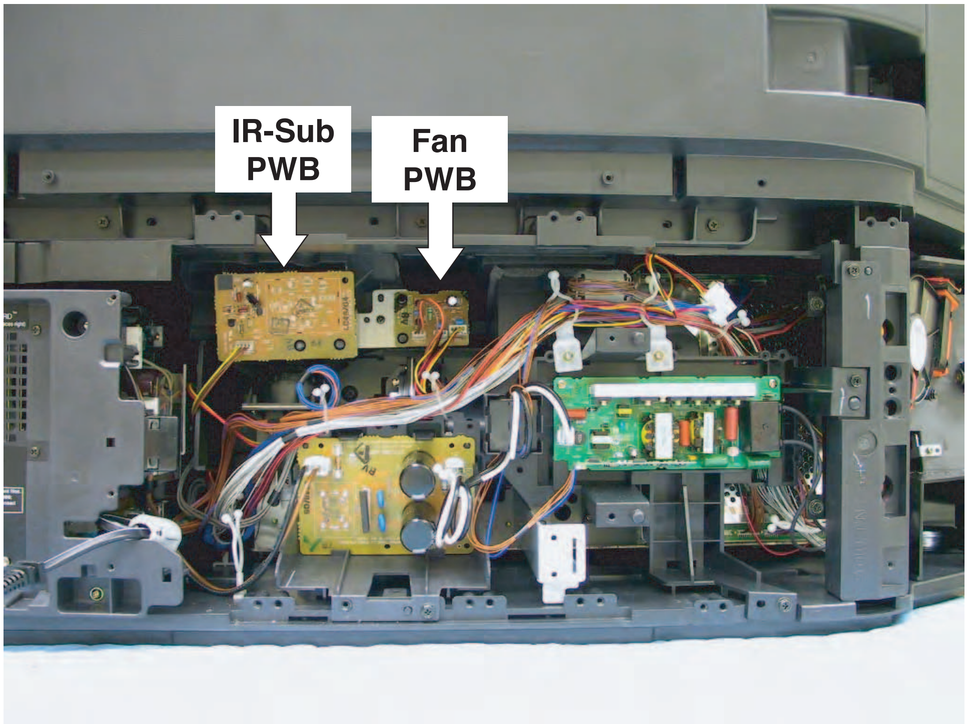
Rear Support Bracket removed

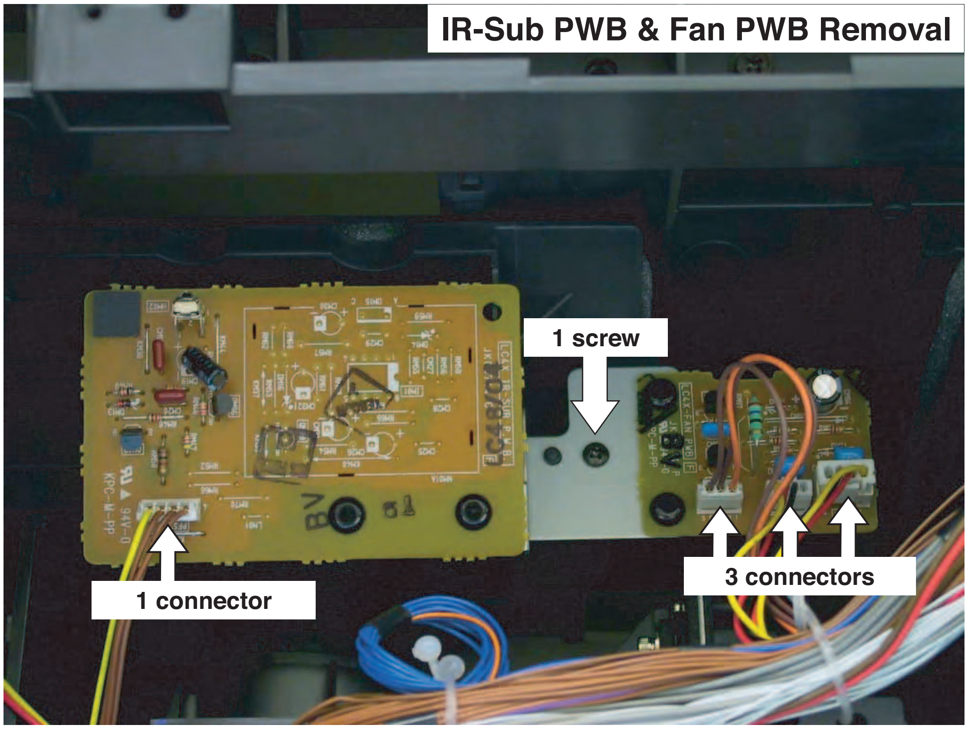
Remove Chassis



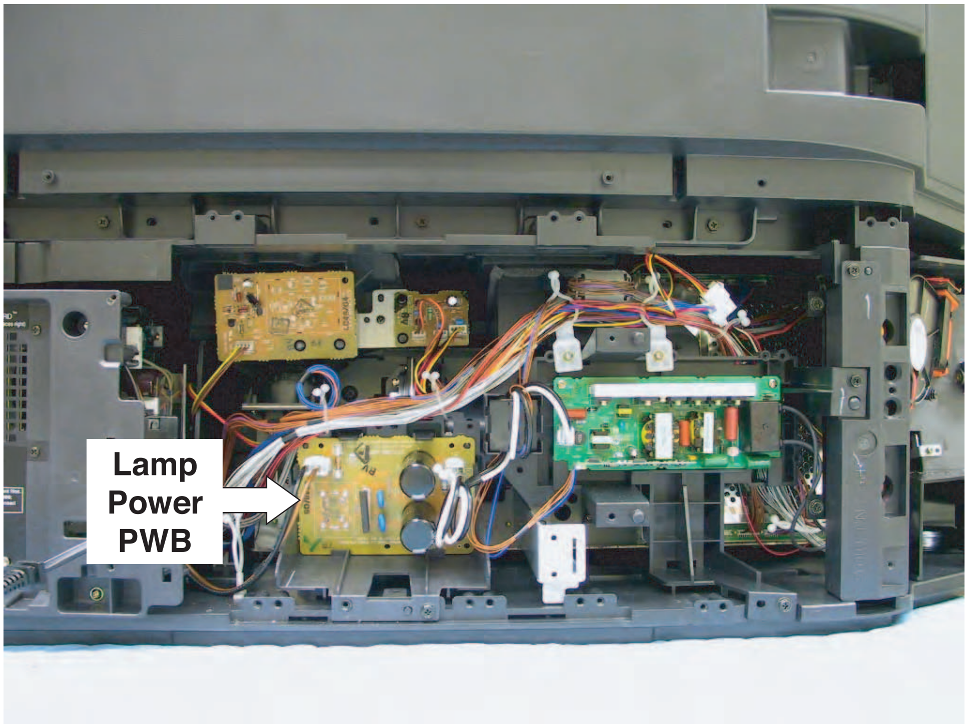
Chassis removed

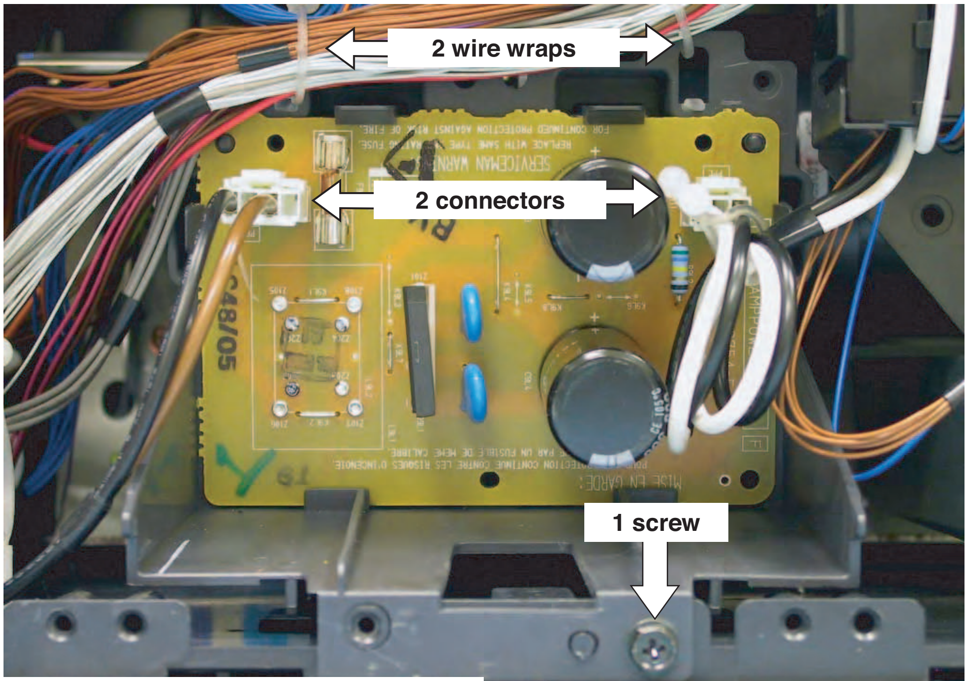
Remove Sub-IR, Fan, Lamp Power, and Lamp Ballast PWBs


IR-Sub PWB
Fan PWB

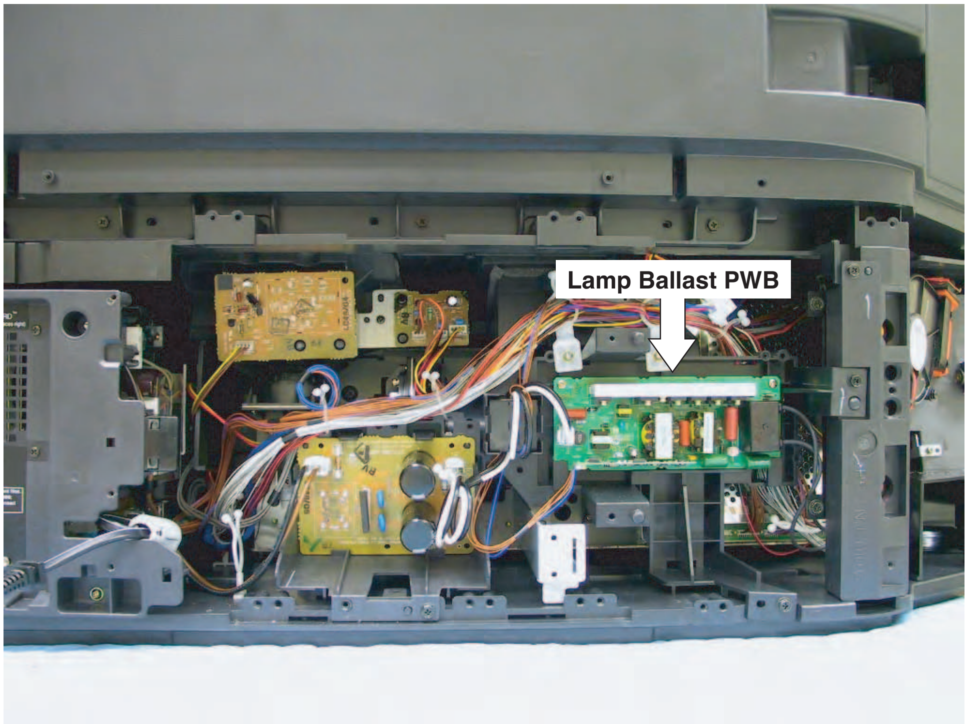

IR-Sub PWB & Fan PWB Removal

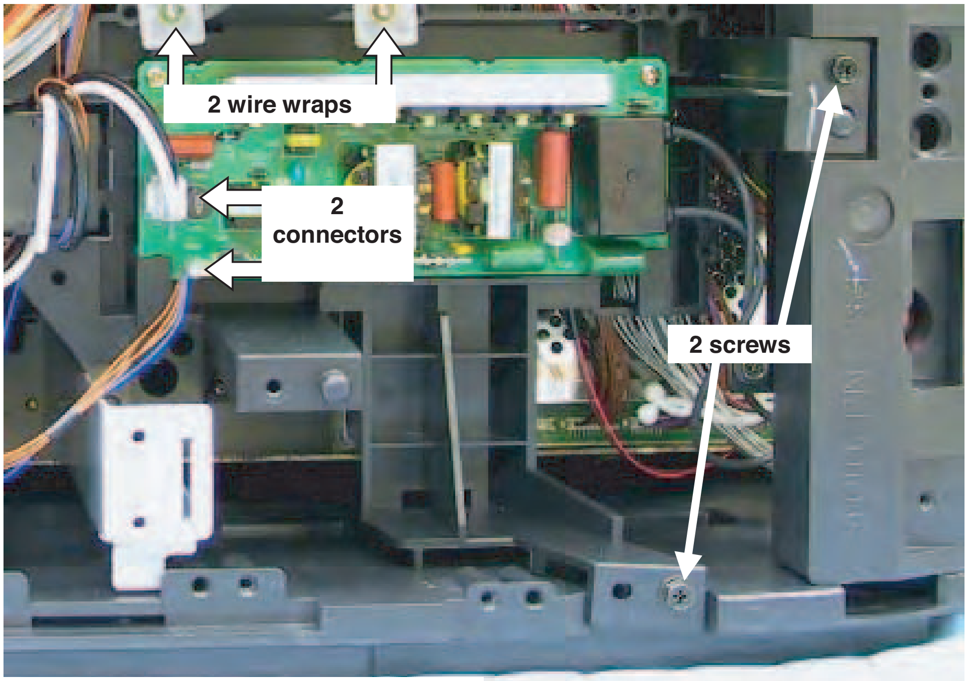
1 screw
1 connector
3 connectors


Lamp
Power
PWB

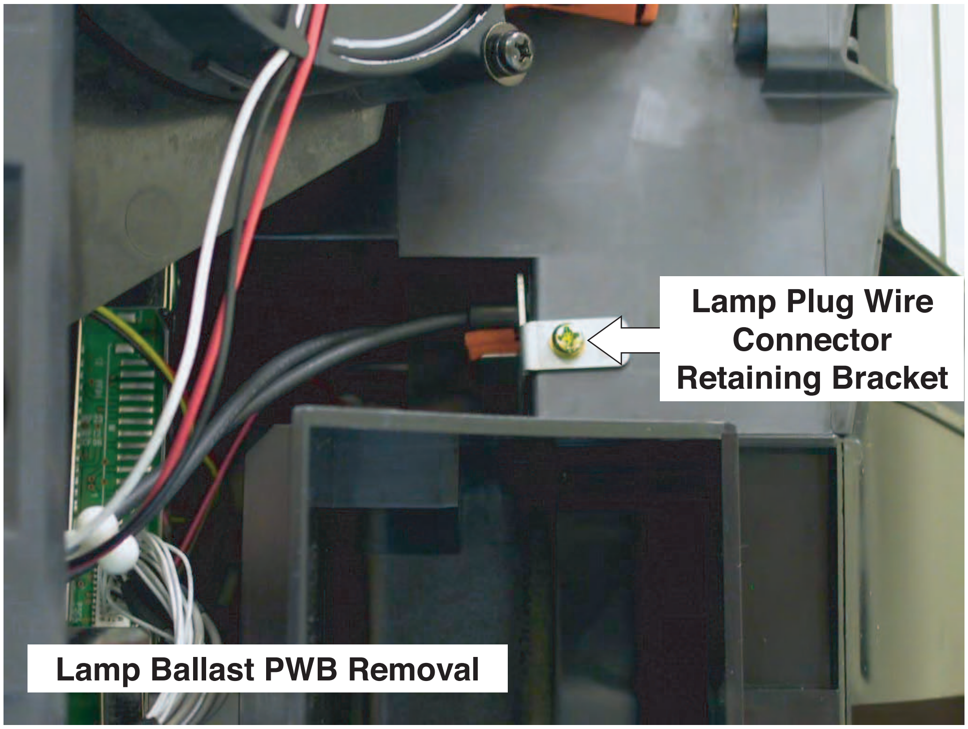

2 wire wraps
2 connectors
1 screw

Lamp Power PWB Removal


Lamp Ballast PWB

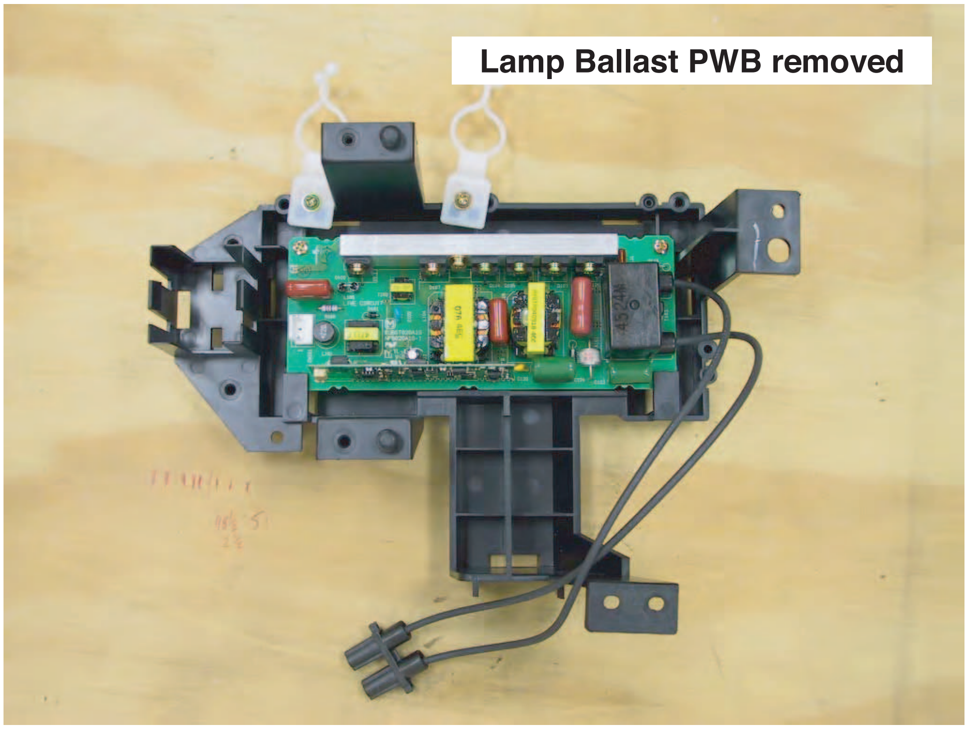

2 wire wraps
2 connectors
2 screws

Lamp Ballast PWB Removal

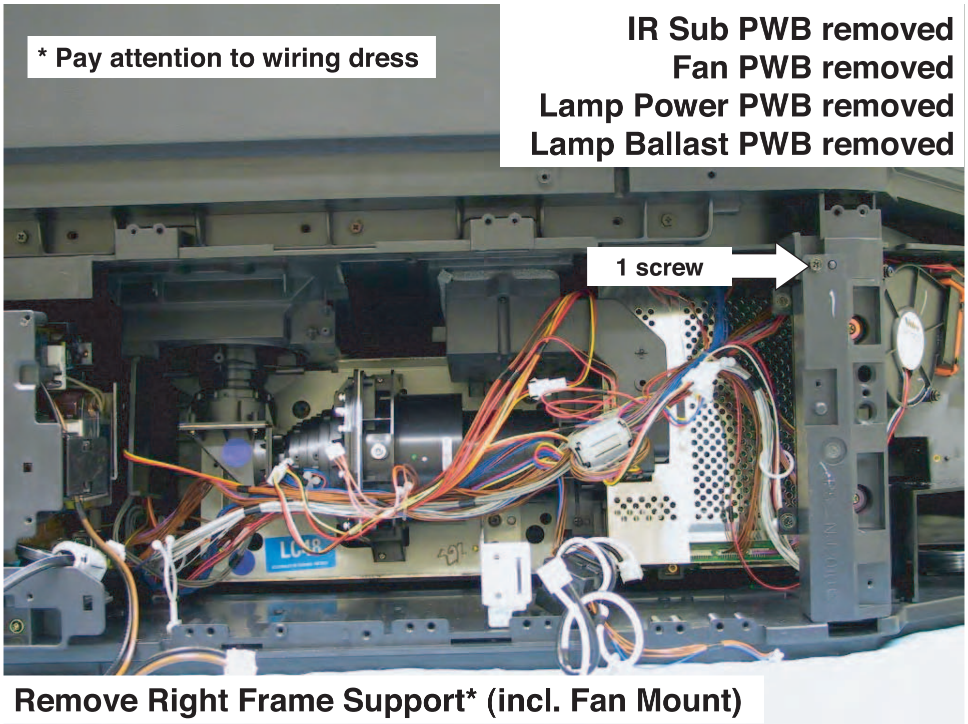


Lamp Plug Wire Connector Retaining Bracket

Lamp Ballast PWB Removal



Lamp Ballast PWB removed

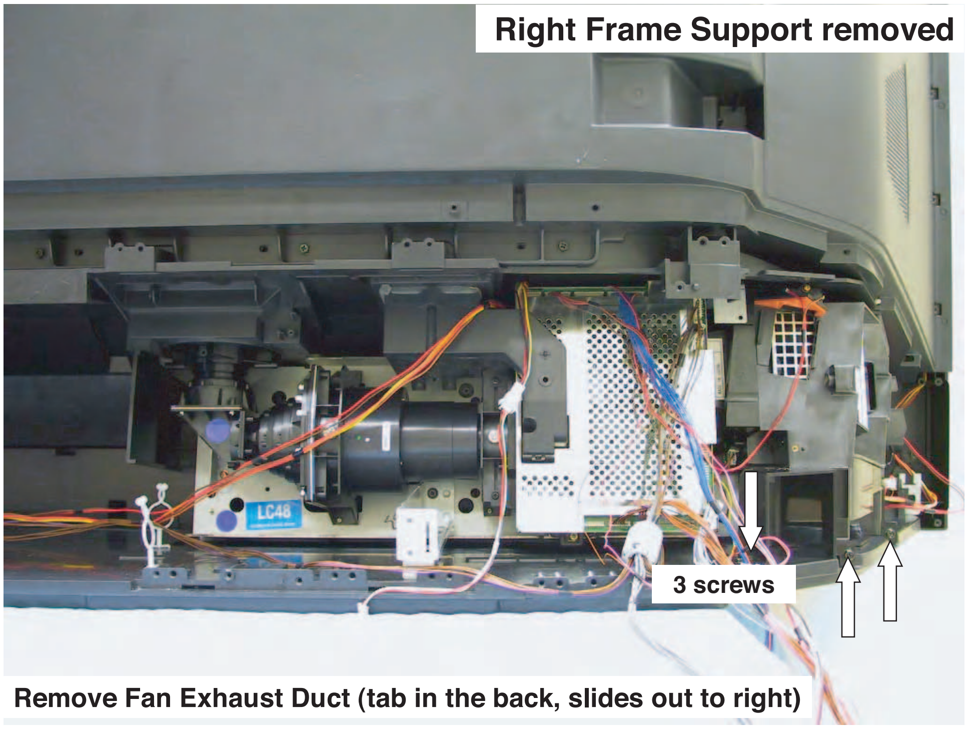


* Pay attention to wiring dress

IR Sub PWB removed
Fan PWB removed
Lamp Power PWB removed
Lamp Ballast PWB removed

1 screw

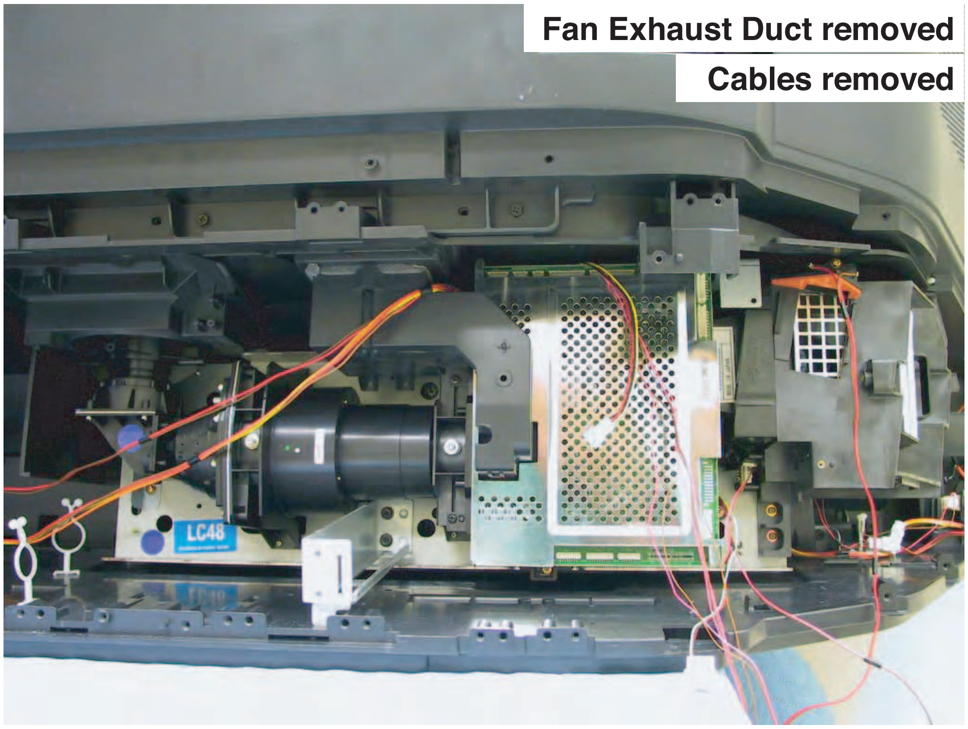
Remove Right Frame Support* (incl. Fan Mount)



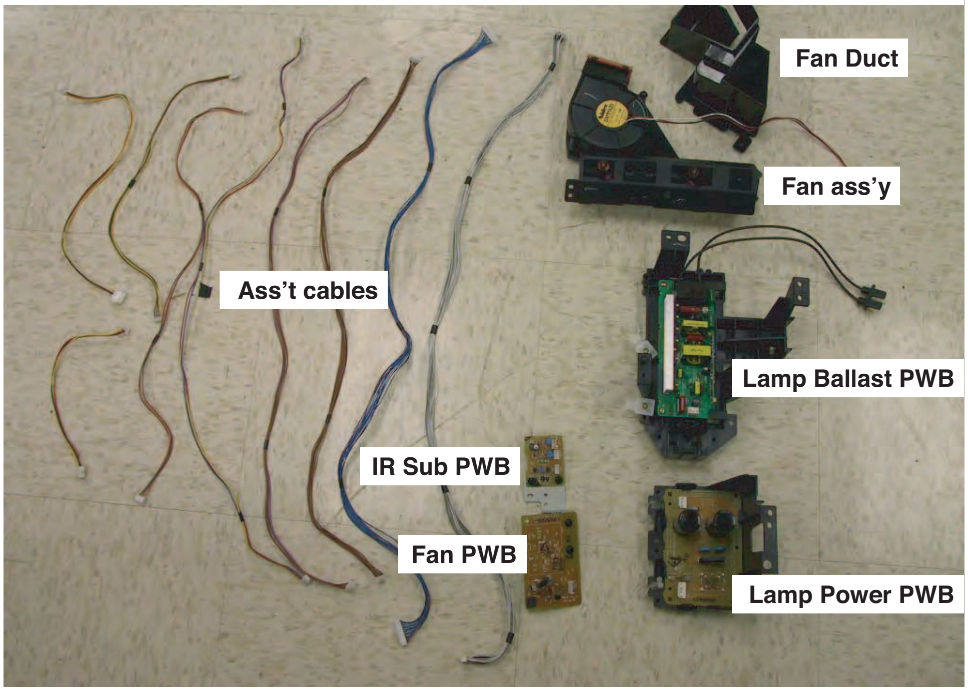
Right Frame Support removed

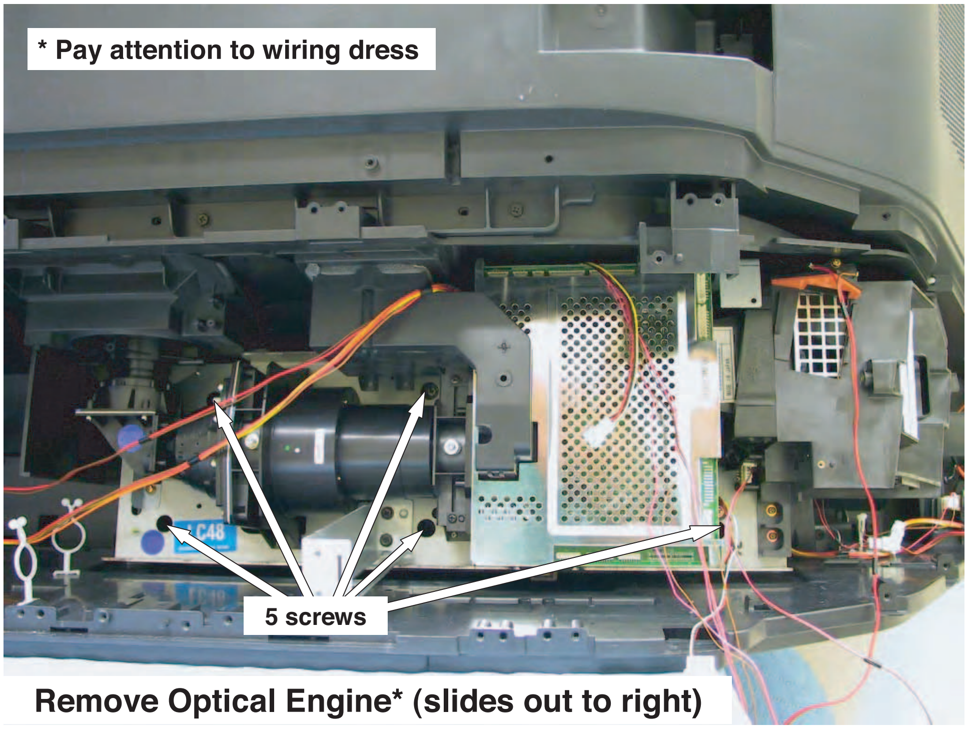
3 screws

Remove Fan Exhaust Duct (tab in the back, slides out to right)

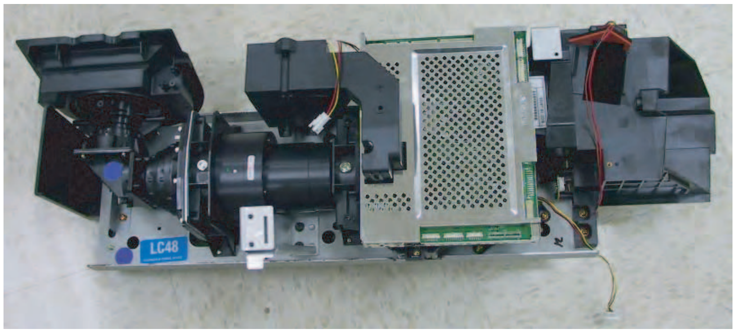

Fan Exhaust Duct removed
Cables removed
LC48

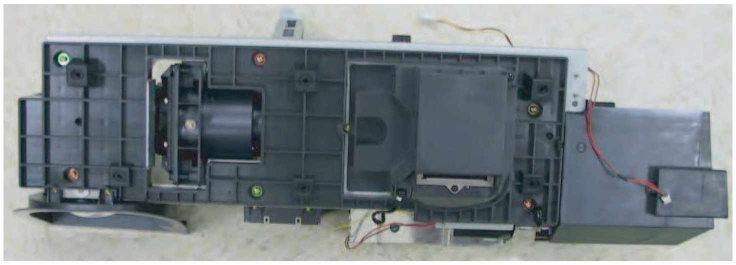
Parts removed prior to Optical Engine removal (pay attention to wiring dress)


Fan Duct
Fan ass'y
Ass't cables
Lamp Ballast PWB
IR Sub PWB
Fan PWB
Lamp Power PWB


* Pay attention to wiring dress
LC48
5 screws

Remove Optical Engine* (slides out to right)





Re-assemble in reverse order

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:

- AL: Aluminum Electrolytic
- CD: Ceramic Disc
- EL: Electrolitic
- PF: Polyester Film
- PP: Polypropylene
- PL: Plastic
- TA: Tantalum
- PR: Paper
- TM: Trimmer
- MC: Mylar

Resistors:

- CF: Carbon Film
- CC: Carbon Composition
- MF: Metal Oxide
- VR: Variable Resistor
- WW: Wire Wound
- FR: Fuse Resistor
- MG: Metal Grazed

Semiconductors:

- TR: Transistor
- DI: Diode
- ZD: Zener Diode
- VA: Varistor
- TH: Termistor
- IC: Integrated Circuit

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
C001	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
C002	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C005	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C006	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C009	0893213R	CAP1608CHIP 2200PFKB 50V TAPE	0	0	0	0	0
C011	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
C013	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C014	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C018	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
C019	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
C020	0893205R	CAP 1608CHIP 560PFKB 50V TAPE	0	0	0	0	0
C024	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C025	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C026	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
C027	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C028	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C029	0893205R	CAP 1608CHIP 560PFKB 50V TAPE	0	0	0	0	0
C030	0893204R	CAP 1608CHIP 470PFKB 50V TAPE	0	0	0	0	0
C031	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C032	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C033	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C034	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	0	0	0	0	0
C035	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
C036	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	0	0	0	0	0
C037	0893204R	CAP 1608CHIP 470PFKB 50V TAPE	0	0	0	0	0
C038	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C039	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	0	0	0	0	0
C040	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
C041	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C042	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	0	0	0	0	0
C043	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C044	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C046	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C048	0800303R	CAP.-ELECTRO. 22UF-M 50V	0	0	0	0	0
C050	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C051	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C052	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C054	0893104R	CAP 1608CHIP 2PFCCK 50V TAPE	0	0	0	0	0
C056	0893245R	CAP 1608CHIP 15000PFKB 50V TAPE	0	0	0	0	0
C058	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C059	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C060	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	0	0	0	0	0
C061	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	0	0	0	0	0
C062	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
C063	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
C064	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C066	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C070	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C071	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C072	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C075	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C080	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C081	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	0	0	0	0	0
C085	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C086	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C089	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C090	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C092	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C094	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C095	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C096	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C097	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C098	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C401	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C402	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C403	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C404	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C405	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
C406	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C407	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C408	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C409	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C410	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C411	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C412	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C413	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C414	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
C415	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C416	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
C417	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C418	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C420	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C421	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C422	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C423	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C424	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C426	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C427	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C428	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C429	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C430	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C431	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C432	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C433	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C434	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C435	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C436	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C437	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C438	0800303R	CAP.-ELECTRO. 22UF-M 50V	0	0	0	0	0
C439	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C441	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C442	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C443	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C444	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C445	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C446	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C447	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C448	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C449	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C450	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C451	AA01123R	CCC105K10-B-16CT		0	0		
C452	AA01123R	CCC105K10-B-16CT		0	0		
C453	AA01123R	CCC105K10-B-16CT		0	0		
C454	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C455	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C456	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C461	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C462	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C463	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C464	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C465	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C466	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C467	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C468	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C469	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C470	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C471	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C472	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C473	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)		0	0		
C474	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
C475	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C476	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C477	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C478	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C479	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C480	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C481	0800303R	CAP.-ELECTRO. 22UF-M 50V	0	0	0	0	0
C482	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C484	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C485	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C486	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C487	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
C488	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C490	AL01849R	1000UF 16V ALUMINIUM ELECTROLYTIC CAPACITOR	0	0	0	0	0
C492	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C493	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
C494	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	0	0	0	0	0
C495	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	0	0	0	0	0
C496	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C4A2	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C4A3	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C4A4	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C4A5	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	0	0	0	0	0
C4A6	AA01123R	CCC105K10-B-16CT	0	0	0	0	0

TABLE OF CONTENTS

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
C4A7	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C4A8	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C4A9	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C4C2	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
C4C3	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
C4C4	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
C501	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C502	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C503	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C508	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C509	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	0	0	0	0	0
C510	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C511	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C512	AA01802R	CCC103K50-B-16CT MCH18	0	0	0	0	0
C513	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C514	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C515	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C516	AA01802R	CCC103K50-B-16CT MCH18	0	0	0	0	0
C517	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C518	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	0	0	0	0	0
C519	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C521	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C523	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
C524	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
C525	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C526	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE	0	0	0	0	0
C527	0893184R	CERAMIC CAPACITOR(22000PF 16V)	0	0	0	0	0
C528	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C529	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C537	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C538	AA01144R	CERAMIC CAP. 1608-B 1.0UF 16V	0	0	0	0	0
C539	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C540	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C541	AA01802R	CCC103K50-B-16CT MCH18	0	0	0	0	0
C542	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C543	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C544	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C545	AA01802R	CCC103K50-B-16CT MCH18	0	0	0	0	0
C546	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C547	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	0	0	0	0	0
C548	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C550	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
C552	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE	0	0	0	0	0
C553	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
C554	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C555	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE	0	0	0	0	0
C556	0893184R	CERAMIC CAPACITOR(22000PF 16V)	0	0	0	0	0
C557	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C558	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C559	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
C560	AA01802R	CCC103K50-B-16CT MCH18	0	0	0	0	0
C562	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C563	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
C567	0893108R	CAP 1608CHIP 6PFCCH 50V TAPE	0	0	0	0	0
C568	0893108R	CAP 1608CHIP 6PFCCH 50V TAPE	0	0	0	0	0
C569	0893108R	CAP 1608CHIP 6PFCCH 50V TAPE	0	0	0	0	0
C570	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
C571	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
C572	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
CA01	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA02	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CA03	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA04	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE	0	0	0	0	0
CA05	0893186R	CERAMIC CAPACITOR(33000PF 16V)	0	0	0	0	0
CA06	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE	0	0	0	0	0
CA10	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CA11	0893184R	CERAMIC CAPACITOR(22000PF 16V)	0	0	0	0	0
CA13	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA14	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA15	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA16	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE	0	0	0	0	0
CA17	0893186R	CERAMIC CAPACITOR(33000PF 16V)	0	0	0	0	0
CA18	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE	0	0	0	0	0
CA19	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V	0	0	0	0	0
CA20	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA21	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA24	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CA25	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA26	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA27	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
CA28	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
CA29	0893221R	CAP 1608CHIP 8200PFKB 50V TAPE	0	0	0	0	0
CA30	AA01128R	CERAMIC CAPACITOR(0.33UF 10V)	0	0	0	0	0
CA31	0800359R	CAP.-ELECTRO. 1000UF-M 10V	0	0	0	0	0
CA32	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA33	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA34	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	0	0	0	0	0
CA35	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA36	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA37	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA38	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CA39	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CA40	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	0	0	0	0	0
CA41	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA42	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	0	0	0	0	0
CA43	0800328R	CAP. ELECTRO. 100UF-M 35V	0	0	0	0	0
CA44	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA45	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA46	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
CA47	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA48	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
CA49	AL01171S	CAP.ELECTR.1000UF-M(YXF)50V	0	0	0	0	0
CA51	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA52	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA53	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA55	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
CA56	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
CA60	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	0	0	0	0	0
CA61	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA62	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CA63	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA64	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CA65	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CA66	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	0	0	0	0	0
CA67	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA68	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	0	0	0	0	0
CA70	0800328R	CAP. ELECTRO. 100UF-M 35V	0	0	0	0	0
CA71	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA72	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA73	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CA74	AL01171S	CAP.ELECTR.1000UF-M(YXF)50V	0	0	0	0	0
CA75	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CA76	0284827F	CAP.-ELECTRO.2200UF-M 50V	0	0	0	0	0
CA77	0284827F	CAP.-ELECTRO.2200UF-M 50V	0	0	0	0	0
CA78	0284827F	CAP.-ELECTRO.2200UF-M 50V	0	0	0	0	0
CA79	0284827F	CAP.-ELECTRO.2200UF-M 50V	0	0	0	0	0
CA80	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CA81	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CA82	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CA83	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CA84	0258616	CAP.-ELECTRO 2.2UF-M 50V	0	0	0	0	0
CA85	0258616	CAP.-ELECTRO 2.2UF-M 50V	0	0	0	0	0
CV01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V	0	0	0	0	0
CV02	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV03	AL01841R	470UF 10V ALUMINIUM ELECTROLYTIC CAPACITOR	0	0	0	0	0
CV04	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV05	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV06	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV07	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV08	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V	0	0	0	0	0
CV09	0893118R	CAP 1608CHIP 27PFJCH 50V TAPE	0	0	0	0	0
CV10	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV11	0893115R	CAP 1608CHIP 15PFJCH 50V TAPE	0	0	0	0	0
CV12	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	0	0	0	0	0
CV13	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV14	0893111R	CAP 1608CHIP 8PFCCH 50V TAPE	0	0	0	0	0
CV15	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV16	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV17	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV19	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
CV20	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV22	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV23	0893121R	CAP 1608CHIP 39PFJCH 50V TAPE	0	0	0	0	0
CV24	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV25	AA01136R	CERAMIC CAPACITOR(0.47UF 6.3V)	0	0	0	0	0
CV26	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV27	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	0	0	0	0	0
CV28	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV29	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV30	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV31	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV32	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV33	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	0	0	0	0	0
CV34	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV35	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV37	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV38	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	0	0	0	0	0
CV40	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV41	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV42	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV43	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV44	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV45	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV46	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
CV47	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV48	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV49	0893129R	CAP 1608CHIP 180PFJCH 50V TAPE	0	0	0	0	0
CV50	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV51	0893127R	CAP 1608CHIP 120PFJCH 50V TAPE	0	0	0	0	0
CV52	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV53	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV54	0893119R	CAP 1608CHIP 33PFJCH 50V TAPE	0	0	0	0	0
CV55	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV56	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV57	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	0	0	0	0	0
CV58	0893135R	CAP 1608CHIP 470PFJCH 50V TAPE	0	0	0	0	0
CV59	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV60	0893213R	CAP1608CHIP 2200PFKB 50V TAPE	0	0	0	0	0
CV61	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV62	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	0	0	0	0	0
CV63	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV64	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV66	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV67	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV68	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV69	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV71	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV72	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

CAPACITORS

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
CV73	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV74	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV75	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV76	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV77	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV78	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV79	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV80	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV81	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV82	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV83	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV84	AA01123R	CCC105K10-B-16CT	0	0	0	0	0
CV85	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV86	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV87	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV88	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV89	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CV91	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV92	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV93	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV95	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CV96	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CV97	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CV98	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CV99	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CW00	0893112R	CAP 1608CHIP 9PFCCH 50V TAPE	0	0	0	0	0
CW01	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CW02	AA01143R	CERAMIC CAPACITOR(0.22UF 16V-B)	0	0	0	0	0
CW03	0893213R	CAP1608CHIP 2200PFKB 50V TAPE	0	0	0	0	0
CW04	0893112R	CAP 1608CHIP 9PFCCH 50V TAPE	0	0	0	0	0
CW05	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)	0	0	0	0	0
CW06	AA01143R	CERAMIC CAPACITOR(0.22UF 16V-B)	0	0	0	0	0
CW07	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CW08	0893213R	CAP1608CHIP 2200PFKB 50V TAPE	0	0	0	0	0
CW09	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	0	0	0	0	0
CW10	AA00934R	CAP. CERAMIC 2012 (2.2UF 10V)	0	0	0	0	0
CW11	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE	0	0	0	0	0
CW12	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CW13	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	0	0	0	0	0
CW14	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE	0	0	0	0	0
CW15	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CW16	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CW17	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CW18	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CY02	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY03	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
CY09	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY10	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
CY12	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY13	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY14	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY15	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY16	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY17	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY18	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY19	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY21	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY22	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	0	0	0	0	0
CY27	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY28	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY29	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY30	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY31	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY32	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
CY33	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CY34	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY35	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	0	0	0	0	0
CY36	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY37	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY38	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY42	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY43	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY44	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY45	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY46	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	0	0	0	0	0
CY50	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY51	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY52	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY53	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
CY54	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY55	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY56	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY59	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY61	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
CY62	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY63	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY64	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY65	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY66	0800351R	CAP.-ELECTRO. 470UF-M 6.3V	0	0	0	0	0
CY67	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V	0	0	0	0	0
CY68	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY69	0800359R	CAP.-ELECTRO. 1000UF-M 10V	0	0	0	0	0
CY70	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY71	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V	0	0	0	0	0
CY72	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY73	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY74	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
CY76	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY77	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY78	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CY79	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY80	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CY89	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CY90	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0

DIODES

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
D001	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D002	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D003	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D005	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D006	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D007	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D008	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D009	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D010	2344041M	DIODE 1SS254TA/1SS270TA	0				
D010	2344041M	DIODE 1SS254TA/1SS270TA		0	0	0	0
D017	2344041M	DIODE 1SS254TA/1SS270TA	0				
D017	2344041M	DIODE 1SS254TA/1SS270TA		0	0	0	0
D018	2344041M	DIODE 1SS254TA/1SS270TA	0				
D018	2344041M	DIODE 1SS254TA/1SS270TA		0	0	0	0
D019	2344041M	DIODE 1SS254TA/1SS270TA	0			0	0
D020	2344041M	DIODE 1SS254TA/1SS270TA	0				
D020	2344041M	DIODE 1SS254TA/1SS270TA		0	0	0	0
D021	2344041M	DIODE 1SS254TA/1SS270TA		0	0		
D025	2348123M	ZENER MTZJ-6.2C TA	0	0	0	0	0
D029	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D030	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D031	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D032	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D033	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D035	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D036	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D037	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D401	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
D405	2348031M	DIO-MTZ-J2.7ATA	0	0	0	0	0
D406	2348031M	DIO-MTZ-J2.7ATA	0	0	0	0	0
D407	CC00971R	DIODE.CHIP DAN202KT146	0	0	0	0	0
D409	CC01651R	DIODE SFPB-66	0	0	0	0	0
D410	CH02001M	DIODE 1SR139-400	0	0	0	0	0
D411	CC00003R	DIODE.CHIP 1SS355	0	0	0	0	0
DA03	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DA04	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DA05	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DA06	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DA07	CC10521R	DIODE	0	0	0	0	0
DA08	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA09	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA10	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA11	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA12	CC10521R	DIODE	0	0	0	0	0
DA13	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA14	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA15	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DA16	2337341M	DIODE 1SS270A (TP)	0	0	0	0	0
DV02	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DY01	2344041M	DIODE 1SS254TA/1SS270TA	0				
DY01	2344041M	DIODE 1SS254TA/1SS270TA		0	0	0	0
DY02	CC10521R	DIODE	0	0	0	0	0
DY03	2339782R	DIODE.CHIP DAN202UT106(80V)	0	0	0	0	0
DY06	CH02001M	DIODE 1SR139-400	0	0	0	0	0
DY07	CH02001M	DIODE 1SR139-400	0	0	0	0	0
DY08	CH02001M	DIODE 1SR139-400	0	0	0	0	0

INTEGRATED CIRCUITS

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
I002	CK39301R	IC MM1096AFFE	0	0	0	0	0
I003	CK37051R	ANALOG MONOLITHIC IC(BD4729G)	0	0	0	0	0
I004	CK50941U	IC TV MICRO M306V7MJ-054FP	0	0	0	0	0
I005	CK50121R	IC CD4053BPWR	0	0	0	0	0
I006	CK04681R	DIGITAL MONOLITHIC IC (DS14C232CM)	0	0	0	0	0
I007	CK39652R	DIGITAL MONOLITHIC IC (BR24L32FJ-WE2)	0	0	0	0	0
I009	CK50111R	IC SN74HCT245PWR	0	0	0	0	0
I010	CK50121R	IC CD4053BPWR	0	0	0	0	0
I013	CK37216R	MONO IC TK11133CSCL	0	0	0	0	0
I014	CK34761R	DIGITAL MONOLITHIC IC (SN74LV221APWR)	0	0	0	0	0
I401	CK39891R	MM1631XJBE	0	0	0	0	0
I402	CK39881U	MM1630AQ	0	0	0	0	0
I403	CP05163F	IC SI-3090F	0	0	0	0	0
I404	CK37162R	MONO IC SI-8033JD	0	0	0	0	0
I406	CK38377R	DIGITAL MONO IC SI-3090KM	0	0	0	0	0
I501	CK50001U	AN15865A	0	0	0	0	0
I502	CK50001U	AN15865A	0	0	0	0	0
I503	CK34991R	SN74ACT14PWR TSSO	0	0	0	0	0
IA01	CK38621R	IC NJM1160M-TE1	0	0	0	0	0
IA02	CP08092	ANALOG MONOLITHIC IC (TA8258HQ)	0	0	0	0	0
IA03	CK33801R	IC NJM2068F	0	0	0	0	0
IA05	CP08092	ANALOG MONOLITHIC IC (TA8258HQ)	0	0	0	0	0
IV01	CK37192R	MONO IC SI-3025LSA-TL	0	0	0	0	0
IV02	CK38701U	IC UPD64084GC-8EA-A	0	0	0	0	0
IV03	CK37053R	RESET IC BD4727G	0	0	0	0	0
IV04	CK07633R	DIGITAL MONOLITHIC IC (TC90A45F)	0	0	0	0	0
IV06	CK35442R	MM1503XNRE	0	0	0	0	0
IV07	CK35441R	ANALOG MONOLITHIC IC(MM1501)	0	0	0	0	0
IV08	CK07924U	IC TA1270BFG	0	0	0	0	0
IV09	CK35442R	MM1503XNRE	0	0	0	0	0
IV10	CK35441R	ANALOG MONOLITHIC IC(MM1501)	0	0	0	0	0
IV12	CK07924U	IC TA1270BFG	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
IY01	CK50121R	IC CD4053BPWR	0	0	0	0	0
IY02	CK31042R	IC TA1287FG	0	0	0	0	0
IY03	CK31042R	IC TA1287FG	0	0	0	0	0
IY04	CK38102R	VIDEO SWITCH IC NJM2584AM(TE1)	0	0	0	0	0
IY05	CP06541F	IC REG.(SI-3033C)	0	0	0	0	0
IY06	CP06542F	IC REG.(SI-3050C)	0	0	0	0	0
IY07	CP05163S	IC SI-3090F(LF1111)	0	0	0	0	0
IY08	CP08341F	IC SI-3010KF	0	0	0	0	0
		COILS					
L001	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L002	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L007	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L008	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
L009	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L011	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L013	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L017	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L018	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L401	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L402	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
L405	BA00894R	LBC2518 CHIP COIL 100UH	0	0	0	0	0
L406	BH01851	7312H TYPE COIL 100UH	0	0	0	0	0
L407	2125797N	FILT.COIL(LHL08 10UH)	0	0	0	0	0
L503	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
L504	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
L507	BH00697R	FILTER COIL 100UH	0	0	0	0	0
L508	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
L509	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
L511	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
LA01	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LA02	2125797N	FILT.COIL(LHL08 10UH)	0	0	0	0	0
LA03	2125797N	FILT.COIL(LHL08 10UH)	0	0	0	0	0
LV01	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
LV02	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
LV03	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
LV04	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LV05	BH00692R	COIL 39UH	0	0	0	0	0
LV06	BH00691R	COIL 33UH	0	0	0	0	0
LV07	BH00691R	COIL 33UH	0	0	0	0	0
LV08	BE00412R	3218 CHIP LC FILTER	0	0	0	0	0
LV09	BE00412R	3218 CHIP LC FILTER	0	0	0	0	0
LV10	2123107M	LAL02 AXIAL COIL 22UH-K	0	0	0	0	0
LV12	BA00894R	LBC2518 CHIP COIL 100UH	0	0	0	0	0
LV13	BA00892R	LBC2518 CHIP COIL 47UH	0	0	0	0	0
LV15	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LV16	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY01	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY02	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY03	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY04	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY05	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LY06	BH00697R	FILTER COIL 100UH	0	0	0	0	0
		TRANSISTORS					
Q003	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q005	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q006	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q007	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q008	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q009	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q010	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q012	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q014	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q015	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q016	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q018	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q019	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q021	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q026	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q028	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q030	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q031	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q032	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q036	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
Q037	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
Q040	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
Q041	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
Q401	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q402	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q403	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q404	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q405	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q406	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q407	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q408	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q409	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
Q410	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q411	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
Q412	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q415	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q416	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q417	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q418	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q419	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q420	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q423	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
Q424	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q425	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q427	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q501	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q502	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q503	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q504	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q505	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q506	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QA01	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QA02	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA03	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QA04	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA05	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
QA06	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
QA07	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QA08	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA09	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA10	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA11	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA12	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
QA13	CA00461R	TRS.CHIP 2SD2114K 20V TAPE	0	0	0	0	0
QA14	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QA15	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV01	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV02	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV03	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV04	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV05	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV07	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV08	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV09	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV10	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV11	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV12	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV13	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV15	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV16	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV17	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV18	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV19	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV20	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV21	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV22	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV25	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV26	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV27	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV28	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV29	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV30	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV32	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV33	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV34	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV35	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV36	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV38	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV39	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV40	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV41	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV42	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV43	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV44	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV45	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV46	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV47	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV48	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV49	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV50	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
QV51	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
QV52	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV53	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV54	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV55	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QV56	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QV57	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY05	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY06	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY07	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY08	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY09	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY10	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY11	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY13	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY14	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY15	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY17	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY18	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY19	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY20	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY21	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY22	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY23	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY24	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY25	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY26	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY27	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY28	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY29	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY30	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
QY31	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY32	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY33	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY34	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY35	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY36	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY37	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY38	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY39	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY40	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QY41	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY42	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY43	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY44	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QY46	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
		RESISTORS					
R013	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R021	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R028	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R031	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R032	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R034	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R037	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R038	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R040	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R043	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R045	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R047	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R049	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R050	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R051	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R052	0790069R	RES.CHIP 1/16W 270K OHM	0	0	0	0	0
R054	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R055	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R056	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R057	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R058	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R060	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R061	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R062	0790071R	RES.CHIP 1/16W 330K OHM	0	0	0	0	0
R063	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R064	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R065	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R067	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R068	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R069	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R070	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R071	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R072	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R073	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R074	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R075	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R076	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R077	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R078	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R079	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R080	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R081	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R082	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R083	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R084	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R085	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R086	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R087	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R088	0790038R	RES.CHIP 1/16W 1.2K OHM	0	0	0	0	0
R089	0790071R	RES.CHIP 1/16W 330K OHM	0	0	0	0	0
R090	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R091	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R092	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R094	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R0A1	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R0A2	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R0A3	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R0A4	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R0A5	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R0A6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R0A9	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R0C3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R0C4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R0C6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R0C7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R0N2	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R0N3	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R100	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R101	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R102	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R104	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R105	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R108	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R109	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R111	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R113	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R114	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R115	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R117	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R118	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R119	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
R120	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R121	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R122	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R123	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R124	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R125	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R126	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R127	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R130	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R131	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R133	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R134	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R135	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R137	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R138	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R139	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R141	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
R145	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R146	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R148	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R149	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R150	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R151	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R152	0790057R	RES.CHIP 1/16W 33K OHM	0	0	0	0	0
R153	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R155	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R156	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R157	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R158	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R159	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
R161	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R162	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R163	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R164	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
R165	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
R167	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R168	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
R169	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
R170	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R171	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R172	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R175	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R176	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R177	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R179	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R180	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R181	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R182	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R183	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R184	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R185	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
R186	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R187	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R188	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R189	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R190	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R191	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R193	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R194	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R196	0790052R	RES.CHIP 1/16W 12K OHM	0	0	0	0	0
R198	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R200	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R201	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R202	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R203	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R204	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R205	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R206	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R207	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R208	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R209	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R210	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R211	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R212	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R214	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
R215	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R216	0790039R	RES.CHIP 1/16W 1.5K OHM	0	0	0	0	0
R217	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R218	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R219	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R220	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R221	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R223	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R224	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R225	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R226	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R227	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R228	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R229	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R231	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R232	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R233	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R234	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R236	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R237	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R238	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R239	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R240	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R242	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don’t degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
R243	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R244	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R245	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R246	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R247	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R248	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R250	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R251	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R253	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R254	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R255	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R261	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R267	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R273	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R274	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R275	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R276	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R277	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R278	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R279	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R280	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R281	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R282	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R283	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R285	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R286	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R287	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R288	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R290	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R294	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R295	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R299	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R2A1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2A2	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2A3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2A4	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2A5	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2A6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2A7	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2A8	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2A9	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2C0	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2C1	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2C2	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2C3	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2C8	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2E1	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R2E2	0790047R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
R2E3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2E7	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R2F0	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2F3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2F6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R2G7	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2G8	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2H0	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2J0	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2J1	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2J2	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
R2J3	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
R2J4	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
R2K0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2K1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2K3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2K5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2K6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2L0	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R2L2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2L3	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R2L4	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R2L5	0790041R	RES.CHIP 1/16W 1.8K OHM	0	0	0	0	0
R2L6	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R2L7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2M2	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2M3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2P0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2P1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2P4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2P5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2P6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2P7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2Q3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2Q4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2Q6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2Q7	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R2R0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R2R1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R401	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R402	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R403	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R404	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
R405	0790053R	RES.CHIP 1/16W 15K OHM	0	0	0	0	0
R406	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R407	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R408	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R410	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R411	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R412	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R413	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
R414	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R415	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R416	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R417	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R418	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R419	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R420	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R421	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R422	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R423	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R424	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R425	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R426	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R427	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R428	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R429	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R430	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R431	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R432	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R433	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R434	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R435	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R436	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R437	0790041R	RES.CHIP 1/16W 1.8K OHM	0	0	0	0	0
R438	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R439	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R440	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R441	0790041R	RES.CHIP 1/16W 1.8K OHM	0	0	0	0	0
R442	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R443	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R444	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R445	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R446	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R447	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R448	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R449	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R450	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R451	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R452	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R453	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R454	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R455	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
R456	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	0	0	0	0	0
R457	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	0	0	0	0	0
R458	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	0	0	0	0	0
R459	0196060R	RES 1608 CHIP 1/16W 510J TAPE	0	0	0	0	0
R460	0196060R	RES 1608 CHIP 1/16W 510J TAPE	0	0	0	0	0
R461	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R462	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R463	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R464	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R465	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R466	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R467	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R468	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
R469	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
R470	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R472	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R473	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R474	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R475	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R476	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R477	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R478	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R479	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R480	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R481	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R482	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R483	0790063R	RES.CHIP 1/16W 82K OHM	0	0	0	0	0
R484	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R485	0790063R	RES.CHIP 1/16W 82K OHM	0	0	0	0	0
R486	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
R487	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
R488	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
R489	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R490	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R491	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R495	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R496	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R498	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R4A2	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R4A3	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R4A6	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R4A7	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R4A8	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R4C8	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4C9	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E0	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E1	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E2	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E3	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E4	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E5	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E6	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E7	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4E8	0790042R	RES.CHIP 1/16W 2.2K OHM		0	0		
R4E9	0790042R	RES.CHIP 1/16W 2.2K OHM		0	0		
R4F0	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F1	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
R4F2	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F3	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F4	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F5	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F6	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F7	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F8	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4F9	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R4G0	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4G1	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4G2	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R4G4	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4G5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R4G6	0790038R	RES.CHIP 1/16W 1.2K OHM	0	0	0	0	0
R4G7	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R4G8	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R4G9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R4H0	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4H1	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4H2	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4H3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4H4	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4H5	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4H6	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4H9	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4K5	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4K6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4K7	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4K8	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4K9	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
R4L0	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R4L5	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4L8	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4M0	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4M1	0196060R	RES 1608 CHIP 1/16W 510J TAPE	0	0	0	0	0
R4M2	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R4M5	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
R4M6	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R4M7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R4M8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R4M9	AQ00186R	RES.CHIP 1/16W 510 OHM TAPE	0	0	0	0	0
R4N0	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R4N1	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R4N3	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R4N4	AQ00186R	RES.CHIP 1/16W 510 OHM TAPE	0	0	0	0	0
R4N5	AQ00186R	RES.CHIP 1/16W 510 OHM TAPE	0	0	0	0	0
R501	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R502	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R503	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R504	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R505	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R506	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R507	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R508	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R509	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R510	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R511	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R512	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R513	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R514	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R515	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R516	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R517	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R518	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R520	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
R521	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R522	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R523	AQ00244R	RES.CHIP 1/16W 75K OHM TAPE	0	0	0	0	0
R524	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
R525	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
R526	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
R527	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R528	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
R529	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R538	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R539	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R540	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R541	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R542	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R543	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R544	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R545	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R546	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R547	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R548	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R552	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
R553	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R554	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R555	0790026R	RES.CHIP 1/16W 150 OHM	0	0	0	0	0
R556	0790026R	RES.CHIP 1/16W 150 OHM	0	0	0	0	0
R557	0790026R	RES.CHIP 1/16W 150 OHM	0	0	0	0	0
R558	AQ00244R	RES.CHIP 1/16W 75K OHM TAPE	0	0	0	0	0
R559	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R560	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R561	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
R562	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R564	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R566	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R567	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
		CAPACITORS					
R593	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R594	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R595	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R596	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R597	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R598	0196153R	RES 1608 CHIP 1/16W 2.7MJ TAPE	0	0	0	0	0
R5A6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R5A7	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R5A8	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R5A9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R5C0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R5C1	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R5E0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R5E1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R5E2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA01	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RA02	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RA03	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RA04	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA05	AQ00181R	RES.CHIP 1/16W 330 OHM TAPE	0	0	0	0	0
RA06	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RA07	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RA08	0790052R	RES.CHIP 1/16W 12K OHM	0	0	0	0	0
RA09	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RA10	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA11	AQ00181R	RES.CHIP 1/16W 330 OHM TAPE	0	0	0	0	0
RA12	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RA13	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RA14	0790052R	RES.CHIP 1/16W 12K OHM	0	0	0	0	0
RA15	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA16	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RA17	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RA18	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RA19	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA20	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA21	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA22	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RA23	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA24	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RA25	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RA26	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RA27	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA28	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RA29	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RA30	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RA31	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RA32	AT03197S	METAL OX. 2.2OHM 1W	0	0	0	0	0
RA33	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RA34	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA35	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA36	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RA37	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RA38	AT03197S	METAL OX. 2.2OHM 1W	0	0	0	0	0
RA39	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RA40	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RA41	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA42	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RA43	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RA44	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RA45	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA47	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA52	AQ00229R	RES.CHIP 1/16W 22K OHM TAPE	0	0	0	0	0
RA54	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RA55	AQ00229R	RES.CHIP 1/16W 22K OHM TAPE	0	0	0	0	0
RA56	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RA57	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA58	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
RA59	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
RA60	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RA61	AT03197S	METAL OX. 2.2OHM 1W	0	0	0	0	0
RA62	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RA63	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA64	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RA65	AT03197S	METAL OX. 2.2OHM 1W	0	0	0	0	0
RA66	0790062R	RES.CHIP 1/16W 68K OHM	0	0	0	0	0
RA67	0790062R	RES.CHIP 1/16W 68K OHM	0	0	0	0	0
RA68	0790062R	RES.CHIP 1/16W 68K OHM	0	0	0	0	0
RA69	0790062R	RES.CHIP 1/16W 68K OHM	0	0	0	0	0
RA70	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0	0	0	0	0
RA71	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0	0	0	0	0
RA72	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0	0	0	0	0
RA73	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0	0	0	0	0
RA76	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA77	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RA78	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RV01	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RV02	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RV03	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV04	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RV05	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RV06	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RV07	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RV08	AQ00185R	RES.CHIP 1/16W 470 OHM TAPE	0	0	0	0	0
RV09	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV10	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV11	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV12	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RV13	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RV14	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
RV15	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RV16	AQ00191R	RES.CHIP 1/16W 750 OHM TAPE	0	0	0	0	0
RV17	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RV18	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RV19	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RV20	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RV21	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RV22	AQ00191R	RES.CHIP 1/16W 750 OHM TAPE	0	0	0	0	0
RV23	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV24	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV25	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV26	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RV30	AQ00174R	RES.CHIP 1/16W 180 OHM TAPE	0	0	0	0	0
RV31	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RV32	AQ00192R	RES.CHIP 1/16W 820 OHM TAPE	0	0	0	0	0
RV33	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RV34	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV35	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RV36	0790041R	RES.CHIP 1/16W 1.8K OHM	0	0	0	0	0
RV37	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RV38	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV39	0790061R	RES.CHIP 1/16W 56K OHM	0	0	0	0	0
RV40	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV41	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RV42	0790052R	RES.CHIP 1/16W 12K OHM	0	0	0	0	0
RV43	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV44	0790036R	RES.CHIP 1/16W 820 OHM	0	0	0	0	0
RV45	0790041R	RES.CHIP 1/16W 1.8K OHM	0	0	0	0	0
RV47	0790011R	RES.CHIP 1/16W 10 OHM	0	0	0	0	0
RV48	0790011R	RES.CHIP 1/16W 10 OHM	0	0	0	0	0
RV49	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV50	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV52	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RV53	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
RV54	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RV55	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RV56	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
RV57	0790032R	RES.CHIP 1/16W 390 OHM	0	0	0	0	0
RV58	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
RV59	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
RV60	0790027R	RES.CHIP 1/16W 180 OHM	0	0	0	0	0
RV61	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV62	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV63	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RV64	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RV65	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RV66	0790068R	RES.CHIP 1/16W 220K OHM	0	0	0	0	0
RV67	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RV68	0790053R	RES.CHIP 1/16W 15K OHM	0	0	0	0	0
RV69	0790052R	RES.CHIP 1/16W 12K OHM	0	0	0	0	0
RV70	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RV71	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RV72	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RV73	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RV74	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV75	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
RV76	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	0	0	0	0	0
RV77	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV78	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RV79	0790053R	RES.CHIP 1/16W 15K OHM	0	0	0	0	0
RV81	0790056R	RES.CHIP 1/16W 27K OHM	0	0	0	0	0
RV82	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RV83	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV84	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RV86	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RV87	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RV88	AQ00205R	RES.CHIP 1/16W 2.7K OHM TAPE	0	0	0	0	0
RV89	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	0	0	0	0	0
RV90	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RV91	0790034R	RES.CHIP 1/16W 560 OHM	0	0	0	0	0
RV92	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RV93	0790039R	RES.CHIP 1/16W 1.5K OHM	0	0	0	0	0
RV95	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RV96	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RV97	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RV98	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RV99	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RVA1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RVA2	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RVA3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW00	0790049R	RES.CHIP 1/16W 8.2K OHM	0	0	0	0	0
RW01	0790054R	RES.CHIP 1/16W 18K OHM	0	0	0	0	0
RW02	0790057R	RES.CHIP 1/16W 33K OHM	0	0	0	0	0
RW03	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RW04	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RW05	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RW06	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW07	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW08	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RW09	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW11	AQ00185R	RES.CHIP 1/16W 470 OHM TAPE	0	0	0	0	0
RW12	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RW13	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW14	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW15	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	0	0	0	0	0
RW16	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW17	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW18	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW19	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
RW20	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW21	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW22	0790061R	RES.CHIP 1/16W 56K OHM	0	0	0	0	0
RW23	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RW24	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW25	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW26	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW27	0790034R	RES.CHIP 1/16W 560 OHM	0	0	0	0	0
RW28	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW29	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW30	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW31	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RW32	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW33	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW34	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW35	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW36	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW37	0790061R	RES.CHIP 1/16W 56K OHM	0	0	0	0	0
RW38	0790058R	RES.CHIP 1/16W 39K OHM	0	0	0	0	0
RW39	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW40	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW41	0790045R	RES.CHIP 1/16W 3.9K OHM	0	0	0	0	0
RW42	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW43	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RW44	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW45	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW46	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW47	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW48	0790034R	RES.CHIP 1/16W 560 OHM	0	0	0	0	0
RW49	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW50	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW51	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW52	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW53	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW54	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW55	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW56	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW57	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW58	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW59	0790045R	RES.CHIP 1/16W 3.9K OHM	0	0	0	0	0
RW60	0196104R	RES 1608 CHIP 1/16W 30KJ TAPE	0	0	0	0	0
RW61	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW62	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW63	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW64	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW65	0196104R	RES 1608 CHIP 1/16W 30KJ TAPE	0	0	0	0	0
RW66	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW67	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RW68	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RW69	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RW70	0196056R	RES.-1608CHIP 1/16W 360-J TAPE	0	0	0	0	0
RW71	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RW72	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RW73	0196056R	RES.-1608CHIP 1/16W 360-J TAPE	0	0	0	0	0
RW99	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWA7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWA8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWA9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWC9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWE9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWF4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RWF5	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RWF6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RWF7	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RX01	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RX02	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RX03	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RX04	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RX09	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RXA0	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA1	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA2	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA4	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RXA5	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RXA7	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RY10	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY11	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY12	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY18	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RY19	AQ00205R	RES.CHIP 1/16W 2.7K OHM TAPE	0	0	0	0	0
RY20	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RY21	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RY22	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY23	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RY24	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
RY25	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	0	0	0	0	0
RY26	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RY27	AQ00205R	RES.CHIP 1/16W 2.7K OHM TAPE	0	0	0	0	0
RY28	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY29	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY30	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY31	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY32	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RY33	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RY34	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RY36	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY38	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RY39	AQ00207R	RES.CHIP 1/16W 3.3K OHM TAPE	0	0	0	0	0
RY40	AQ00214R	RES.CHIP 1/16W 5.6K OHM	0	0	0	0	0
RY42	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY43	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY44	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY45	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY46	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY47	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY48	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY50	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY51	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY52	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY53	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY56	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RY57	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RY58	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	0	0	0	0	0
RY59	AQ00209R	RES.CHIP 1/16W 3.9K OHM TAPE	0	0	0	0	0
RY60	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RY61	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY62	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RY63	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY64	0790048R	RES.CHIP 1/16W 6.8K OHM	0	0	0	0	0
RY65	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RY66	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RY67	AQ00201R	RES.CHIP 1/16W 1.8K OHM TAPE	0	0	0	0	0
RY68	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY69	AQ00212R	RES.CHIP 1/16W 4.7K OHM TAPE	0	0	0	0	0
RY70	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY71	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY72	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY73	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY74	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY75	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY77	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY78	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY79	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY80	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY81	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY82	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RY90	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY91	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY92	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY94	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RY95	0790031R	RES.CHIP 1/16W 330 OHM	0	0	0	0	0
RY96	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY97	0790031R	RES.CHIP 1/16W 330 OHM	0	0	0	0	0
RY98	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RY99	0790031R	RES.CHIP 1/16W 330 OHM	0	0	0	0	0
RYA0	0196035R	RES.-1608CHIP 1/16W 51-J TAPE		0	0		
RYA0	0790019R	RES.CHIP 1/16W 47 OHM	0			0	0
RYA1	0196035R	RES.-1608CHIP 1/16W 51-J TAPE		0	0		
RYA1	0790019R	RES.CHIP 1/16W 47 OHM	0			0	0
RYA2	0790022R	RES.CHIP 1/16W 68 OHM		0	0		
RYA2	0790023R	RES.CHIP 1/16W 82 OHM	0			0	0
RYA3	0790022R	RES.CHIP 1/16W 68 OHM		0	0		
RYA3	0790023R	RES.CHIP 1/16W 82 OHM	0			0	0
RYA4	0790022R	RES.CHIP 1/16W 68 OHM		0	0		
RYA4	0790023R	RES.CHIP 1/16W 82 OHM	0			0	0
RYA5	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYA6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYA7	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYA8	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYC0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RYC1	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYC2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RYC3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYC4	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYC8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RYC9	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYE1	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYE2	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYE3	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RYE4	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYE5	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYE6	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYE7	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYE8	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYE9	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYF0	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RYF1	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYF2	0790056R	RES.CHIP 1/16W 27K OHM	0	0	0	0	0
RYF3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYF4	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYF5	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYF7	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYF8	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RYF9	0790053R	RES.CHIP 1/16W 15K OHM	0	0	0	0	0

SIGNAL PWB.

			LC47K SIGNAL PWB ASY	LC48 SIGNAL PWB ASY	LC48B SIGNAL PWB ASY	LC47 SIGNAL PWB ASY	LC47B SIGNAL PWB ASY
			0	0	0	0	0
		CAPACITORS					
RYG0	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RYG1	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RYG2	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYG3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYG5	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYG6	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYG7	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYG8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RYG9	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYH2	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYH3	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RYH4	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RYH5	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
RYH6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RYH7	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RYK0	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYK3	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RYK4	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ01	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ04	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RZ05	AQ00216R	RES.CHIP 1/16W 6.8K OHM TAPE	0	0	0	0	0
RZ06	AQ00221R	RES.CHIP 1/16W 10K OHM TAPE	0	0	0	0	0
RZ10	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ31	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ32	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ33	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RZ34	AQ00192R	RES.CHIP 1/16W 820 OHM TAPE	0	0	0	0	0
RZ35	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RZ36	AQ00201R	RES.CHIP 1/16W 1.8K OHM TAPE	0	0	0	0	0
RZ37	AQ00211R	RES.CHIP 1/16W 4.3K OHM TAPE	0	0	0	0	0
RZ38	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	0	0	0	0	0
RZ39	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ40	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ41	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ42	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ43	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RZ44	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RZ45	0790043R	RES.CHIP 1/16W 2.7K OHM	0	0	0	0	0
RZ46	0790048R	RES.CHIP 1/16W 6.8K OHM	0	0	0	0	0
RZ47	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
RZ48	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ49	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ50	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ51	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ52	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ53	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ54	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZ61	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ62	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ63	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ64	0790031R	RES.CHIP 1/16W 330 OHM	0	0	0	0	0
RZ65	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RZ66	0790031R	RES.CHIP 1/16W 330 OHM	0	0	0	0	0
RZ67	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RZ68	0790029R	RES.CHIP 1/16W 270 OHM	0	0	0	0	0
RZ69	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	0	0	0	0	0
RZ70	AQ00192R	RES.CHIP 1/16W 820 OHM TAPE	0	0	0	0	0
RZ71	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	0	0	0	0	0
RZ72	AQ00201R	RES.CHIP 1/16W 1.8K OHM TAPE	0	0	0	0	0
RZ73	AQ00211R	RES.CHIP 1/16W 4.3K OHM TAPE	0	0	0	0	0
RZ74	AQ00198R	RES.CHIP 1/16W 1.5K OHM TAPE	0	0	0	0	0
RZ75	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ76	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ77	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ78	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ79	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ80	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ81	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ82	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ83	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ87	0790032R	RES.CHIP 1/16W 390 OHM		0	0		
RZ87	0790038R	RES.CHIP 1/16W 1.2K OHM	0			0	0
RZ88	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ89	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ90	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RZ91	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RZ92	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ93	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZ94	0790019R	RES.CHIP 1/16W 47 OHM	0	0	0	0	0
RZ95	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
RZ99	0196035R	RES.-1608CHIP 1/16W 51-J TAPE		0	0		
RZ99	0790019R	RES.CHIP 1/16W 47 OHM	0			0	0
RZA3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RZA4	AQ00212R	RES.CHIP 1/16W 4.7K OHM TAPE	0	0	0	0	0
RZA5	AQ00211R	RES.CHIP 1/16W 4.3K OHM TAPE	0	0	0	0	0
RZA6	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RZA7	0790035R	RES.CHIP 1/16W 680 OHM	0	0	0	0	0
RZC1	AT03847M	18.0OHM 1/2W RDS50 CARBON FILM RESISTOR			0		
RZC2	AT03847M	18.0OHM 1/2W RDS50 CARBON FILM RESISTOR			0		
RZC3	AT03847M	18.0OHM 1/2W RDS50 CARBON FILM RESISTOR			0		
RZC4	AT03847M	18.0OHM 1/2W RDS50 CARBON FILM RESISTOR			0		
		OSCILLATORS					
X002	BP01311R	CSTLS16M0X	0	0	0	0	0
XV02	BP01241	OSCILLATOR 3.58 49U	0	0	0	0	0
XV03	BP01241	OSCILLATOR 3.58 49U	0	0	0	0	0
XV04	2168771	VFL-CSB503F30	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SIGNAL PWB.

		LC47K SIGNAL PWB ASY	0				
		LC48 SIGNAL PWB ASY		0			
		LC48B SIGNAL PWB ASY			0		
		LC47 SIGNAL PWB ASY				0	
		LC47B SIGNAL PWB ASY					0
XV05	2168771	VFL-CSB503F30	0	0	0	0	0
XV06	BJ00642	COIL (LC FILTER 6M LPF)	0	0	0	0	0
XV07	BJ00642	COIL (LC FILTER 6M LPF)	0	0	0	0	0
XV08	BJ00642	COIL (LC FILTER 6M LPF)	0	0	0	0	0
XV09	BJ00642	COIL (LC FILTER 6M LPF)	0	0	0	0	0

TUNER PWB

		LC47K TUNER PWB ASY	0				
		LC48 TUNER PWB ASY		0			
		LC48B TUNER PWB ASY			0		
		LC47 TUNER PWB ASY				0	
		LC47B TUNER PWB ASY					0
		CAPACITORS					
C309	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C310	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C313	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C314	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C315	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C316	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C317	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C318	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C319	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C320	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C322	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C323	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C325	0893247R	CAP.CHIP-CERAMIC 18000PF 50V TAPE	0	0	0	0	0
C326	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
C327	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C330	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	0	0	0	0	0
C331	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
C335	0800359R	CAP.-ELECTRO. 1000UF-M 10V	0	0	0	0	0
C336	AA01141R	CERAMIC CAPACITOR(0.1UF 16V)	0	0	0	0	0
C337	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	0	0	0	0	0
C338	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V	0	0	0	0	0
		DIODES					
D302	2348293M	DIODE MTZ-J33CTA	0	0	0	0	0
D303	2348293M	DIODE MTZ-J33CTA	0	0	0	0	0
		INTEGRATED CIRCUIT					
I302	CK37781R	TA1370FG	0	0	0	0	0
		COILS					
L303	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
L304	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
L305	2123781R	FILTER COIL 100UH(EL0607)	0	0	0	0	0
L307	BH00697R	FILTER COIL 100UH	0	0	0	0	0
		TRANSISTORS					
Q302	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q303	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q304	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q305	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q306	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
Q308	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q309	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q311	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q313	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
Q314	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
		RESISTORS					
R304	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R305	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R306	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R308	0790028R	RES.CHIP 1/16W 220 OHM	0	0	0	0	0
R310	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R311	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R312	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R313	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R315	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R316	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R318	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R319	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R320	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R321	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R322	0790045R	RES.CHIP 1/16W 3.9K OHM	0	0	0	0	0
R323	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R324	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R325	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
R326	0790044R	RES.CHIP 1/16W 3.3K OHM	0	0	0	0	0
R328	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R329	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R336	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R339	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
R342	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R343	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R347	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R349	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R350	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R351	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0

TUNER PWB

		LC47K TUNER PWB ASY	0				
		LC48 TUNER PWB ASY		0			
		LC48B TUNER PWB ASY			0		
		LC47 TUNER PWB ASY				0	
		LC47B TUNER PWB ASY					0
		CAPACITORS					
R353	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R354	0790055R	RES.CHIP 1/16W 22K OHM	0	0	0	0	0
R357	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R358	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
R359	0196056R	RES.-1608CHIP 1/16W 360-J TAPE	0	0	0	0	0
R360	0196089R	RES.-1608CHIP 1/16W 7.5K-J TAPE	0	0	0	0	0
R361	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R362	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R363	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R364	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R365	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R366	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R367	0790042R	RES.CHIP 1/16W 2.2K OHM	0	0	0	0	0
R368	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R369	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
R370	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R371	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
R372	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R373	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R374	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R375	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R376	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R381	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R382	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R383	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R386	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R388	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
R391	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
		TUNERS					
U301	HC00496	V0-A32FT(C/M)	0	0	0	0	0
U302	HC00505	V0-A69FT(C/M)	0	0	0	0	0
X001	2168771	VFL-CSB503F30	0	0	0	0	0

HDMI PWB.

		LC47K HDMI PWB ASY	0				
		LC48 HDMI PWB ASY		0			
		LC48B HDMI PWB ASY			0		
		LC47 HDMI PWB ASY				0	
		LC47B HDMI PWB ASY					0
		CAPACITORS					
CJ01	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ03	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ04	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CJ05	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ06	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ07	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ08	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ09	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ10	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ11	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ12	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ13	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ14	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CJ16	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ17	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ18	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ19	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ20	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ21	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	0	0	0	0	0
CJ22	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ23	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ24	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ25	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CJ26	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ27	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ28	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ29	0893188R	CERAMIC CAPACITOR(47000PF 16V)	0	0	0	0	0
CJ30	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ31	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ32	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ33	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ34	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CJ35	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ36	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ37	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ38	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ39	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ40	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ41	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ42	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ43	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	0	0	0	0	0
CJ45	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ46	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CJ47	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ48	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ49	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
CJ50	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ51	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	0	0	0	0	0
CJ52	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ53	0800352R	CAP.-ELECTRO.470UF 10V	0	0	0	0	0
CJ54	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE	0	0	0	0	0
CJ55	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

HDMI PWB.

			LC47K HDMI PWB ASY	LC48 HDMI PWB ASY	LC48B HDMI PWB ASY	LC47 HDMI PWB ASY	LC47B HDMI PWB ASY
		CAPACITORS					
CJ56	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CJ57	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CJ58	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	0	0	0	0	0
CJ59	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE	0	0	0	0	0
CJ60	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	0	0	0	0	0
CJ61	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	0	0	0	0	0
CJ62	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ63	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CJ64	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ65	0800326R	CAP.-ELECTRO. 100UF-M 16V	0	0	0	0	0
CJ66	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJ67	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V	0	0	0	0	0
CJ70	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ72	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ73	0800326R	CAP.-ELECTRO. 100UF-M 16V		0	0		
CJ74	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ75	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ76	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ77	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ78	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ79	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ80	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ81	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ82	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ83	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE		0	0		
CJ85	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ86	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ87	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ88	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ89	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ90	0893222R	CAP 1608CHIP10000PFKB 50V TAPE		0	0		
CJ91	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ92	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ93	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ94	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE		0	0		
CJ95	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ96	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ97	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJ98	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJ99	0893188R	CERAMIC CAPACITOR(47000PF 16V)		0	0		
CJA1	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJA2	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJA3	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJA4	0800326R	CAP.-ELECTRO. 100UF-M 16V		0	0		
CJA5	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJA6	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJA7	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJA8	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJA9	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJC1	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJC2	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJC3	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJC4	0800326R	CAP.-ELECTRO. 100UF-M 16V		0	0		
CJC5	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJC6	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJC7	0800352R	CAP.-ELECTRO.470UF 10V		0	0		
CJC8	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJC9	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE		0	0		
CJE1	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJE2	0800352R	CAP.-ELECTRO.470UF 10V		0	0		
CJE3	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE		0	0		
CJE4	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V		0	0		
CJE5	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE		0	0		
CJE6	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V		0	0		
CJE7	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE		0	0		
CJE8	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE		0	0		
CJE9	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V		0	0		
CJF1	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE		0	0		
CJF2	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
CJF3	0800326R	CAP.-ELECTRO. 100UF-M 16V		0	0		
CJH3	AA02451R	AVRL161A1R1NT	0	0	0	0	0
CJH4	AA02451R	AVRL161A1R1NT	0	0	0	0	0
CJJ4	AA02451R	AVRL161A1R1NT		0	0		
CJJ5	AA02451R	AVRL161A1R1NT		0	0		
CJJ6	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	0	0	0	0	0
CJJ7	0893232R	CAP 1608CHIP 100000PFZF25V TAPE		0	0		
		DIODES					
DJ01	CC00834R	ZENER.CHIP UDZ 15B	0	0	0	0	0
DJ02	CC00003R	DIODE.CHIP 1SS355	0	0	0	0	0
DJ13	CC00834R	ZENER.CHIP UDZ 15B	0	0	0	0	0
DJ15	CC10752R	DIODE(DAP202U T106)	0	0	0	0	0
DJ17	CC10752R	DIODE(DAP202U T106)	0	0	0	0	0
DJ19	CC00003R	DIODE.CHIP 1SS355	0	0	0	0	0
DJ20	CC00003R	DIODE.CHIP 1SS355	0	0	0	0	0
DJ24	CC00003R	DIODE.CHIP 1SS355		0	0		
DJ35	CC00834R	ZENER.CHIP UDZ 15B		0	0		
DJ37	CC10752R	DIODE(DAP202U T106)		0	0		
DJ39	CC10752R	DIODE(DAP202U T106)		0	0		
DJ41	CC00003R	DIODE.CHIP 1SS355		0	0		
DJ42	CC00003R	DIODE.CHIP 1SS355		0	0		
DJ46	CC01731R	SCHOTTKY BAT254	0	0	0	0	0
DJ47	CC00003R	DIODE.CHIP 1SS355	0	0	0	0	0
DJ48	CC01731R	SCHOTTKY BAT254		0	0		
DJ49	CC00003R	DIODE.CHIP 1SS355		0	0		

HDMI PWB.

			LC47K HDMI PWB ASY	LC48 HDMI PWB ASY	LC48B HDMI PWB ASY	LC47 HDMI PWB ASY	LC47B HDMI PWB ASY
		FILTER.					
HJ01	BE00303R	CHIP LC FILTER MEM2012T50R0	0	0	0	0	0
HJ02	BE00303R	CHIP LC FILTER MEM2012T50R0	0	0	0	0	0
HJ03	BE00303R	CHIP LC FILTER MEM2012T50R0	0	0	0	0	0
HJ04	BE00303R	CHIP LC FILTER MEM2012T50R0		0	0		
HJ05	BE00303R	CHIP LC FILTER MEM2012T50R0		0	0		
HJ06	BE00303R	CHIP LC FILTER MEM2012T50R0		0	0		
		INTEGRATED CIRCUITS					
IJ01	CK39656R	DIGITAL MONOLITHIC IC (BR24L02FJ-WE2)	0	0	0	0	0
IJ03	CK39811U	SII9993CTG100	0	0	0	0	0
IJ04	2015762R	IC HD74HC151FPEL	0	0	0	0	0
IJ05	CK39821R	PCM1754DBQR	0	0	0	0	0
IJ06	CK07141R	ANALOG MONO. IC (BA4558F-E2)	0	0	0	0	0
IJ07	CK39656R	DIGITAL MONOLITHIC IC (BR24L02FJ-WE2)		0	0		
IJ09	CK39811U	SII9993CTG100		0	0		
IJ10	CK39821R	PCM1754DBQR		0	0		
IJ11	CK07141R	ANALOG MONO. IC (BA4558F-E2)		0	0		
		COILS					
LJ03	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ04	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ05	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ06	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ07	BH00683R	COIL 8.2UH(FLR50)	0	0	0	0	0
LJ08	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ09	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ10	BM00289R	FILTER BLM18BD471SN1D	0	0	0	0	0
LJ12	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LJ13	BH00697R	FILTER COIL 100UH	0	0	0	0	0
LJ14	2125797N	FILT.COIL(LHL08 10UH)	0	0	0	0	0
LJ18	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ19	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ20	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ21	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ22	BH00683R	COIL 8.2UH(FLR50)		0	0		
LJ23	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ24	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ25	BM00289R	FILTER BLM18BD471SN1D		0	0		
LJ27	BH00697R	FILTER COIL 100UH		0	0		
		TRANSISTORS					
QJ03	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ04	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ05	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QJ06	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ07	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ08	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QJ09	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ10	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QJ11	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QJ12	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE	0	0	0	0	0
QJ15	2316244R	TRS.CHIP 2SC4081 R		0	0		
QJ16	2316244R	TRS.CHIP 2SC4081 R		0	0		
QJ17	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE		0	0		
QJ18	2316244R	TRS.CHIP 2SC4081 R		0	0		
QJ19	2316244R	TRS.CHIP 2SC4081 R		0	0		
QJ20	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE		0	0		
QJ21	2316244R	TRS.CHIP 2SC4081 R		0	0		
QJ22	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE		0	0		
QJ23	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE		0	0		
QJ24	CA00122R	TRS.CHIP 2SA1576A(R)50V TAPE		0	0		
QJ27	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
QJ28	CA01011R	TRS.CHIP 2SK3018	0	0	0	0	0
QJ29	CA01011R	TRS.CHIP 2SK3018		0	0		
QJ30	CA01011R	TRS.CHIP 2SK3018		0	0		
QJ31	2316244R	TRS.CHIP 2SC4081 R	0	0	0	0	0
QJ32	2316244R	TRS.CHIP 2SC4081 R		0	0		
		RESISTORS					
RJ02	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ03	0790061R	RES.CHIP 1/16W 56K OHM	0	0	0	0	0
RJ07	0790019R	RES.CHIP 1/16W 47 OHM	0	0	0	0	0
RJ08	0790019R	RES.CHIP 1/16W 47 OHM	0	0	0	0	0
RJ09	0790073R	RES.CHIP 1/16W 470K OHM	0	0	0	0	0
RJ10	0790073R	RES.CHIP 1/16W 470K OHM	0	0	0	0	0
RJ13	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ14	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ19	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ20	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ22	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ23	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ24	AQ00183R	RES.CHIP 1/16W 390 OHM TAPE	0	0	0	0	0
RJ25	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ26	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ27	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ28	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ29	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ30	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ31	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ32	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ33	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RJ34	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJ35	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

HDMI PWB.

			LC47K HDMI PWB ASY	LC48 HDMI PWB ASY	LC48B HDMI PWB ASY	LC47 HDMI PWB ASY	LC47B HDMI PWB ASY
RJ35	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ36	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ37	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RJ38	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ39	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ40	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ41	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ42	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ43	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE	0	0	0	0	0
RJ44	AQ00165R	RES.CHIP 1/16W 82 OHM TAPE	0	0	0	0	0
RJ45	AQ00142R	RES.CHIP 1/16W 11 OHM TAPE	0	0	0	0	0
RJ46	0790046R	RES.CHIP 1/16W 4.7K OHM	0	0	0	0	0
RJ47	0790045R	RES.CHIP 1/16W 3.9K OHM	0	0	0	0	0
RJ48	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ49	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ50	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ51	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ52	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ53	0790017R	RES.CHIP 1/16W 33 OHM	0	0	0	0	0
RJ54	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ56	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ57	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0			0	0
RJ58	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJ59	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ60	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ61	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ62	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ63	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJ64	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ65	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ66	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ67	0790059R	RES.CHIP 1/16W 47K OHM	0	0	0	0	0
RJ68	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJ69	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ70	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJ73	0790068R	RES.CHIP 1/16W 220K OHM	0	0	0	0	0
RJ74	0790068R	RES.CHIP 1/16W 220K OHM	0	0	0	0	0
RJ75	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ76	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE	0	0	0	0	0
RJ77	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE	0	0	0	0	0
RJ78	0790049R	RES.CHIP 1/16W 8.2K OHM	0	0	0	0	0
RJ79	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ80	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ81	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RJ82	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RJ83	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ84	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE	0	0	0	0	0
RJ85	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE	0	0	0	0	0
RJ86	0790049R	RES.CHIP 1/16W 8.2K OHM	0	0	0	0	0
RJ87	0790064R	RES.CHIP 1/16W 100K OHM	0	0	0	0	0
RJ88	0790033R	RES.CHIP 1/16W 470 OHM	0	0	0	0	0
RJ89	0790015R	RES.CHIP 1/16W 22 OHM	0	0	0	0	0
RJ91	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ92	0790039R	RES.CHIP 1/16W 1.5K OHM	0	0	0	0	0
RJ93	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ94	0790015R	RES.CHIP 1/16W 22 OHM	0	0	0	0	0
RJ96	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJ97	0790039R	RES.CHIP 1/16W 1.5K OHM	0	0	0	0	0
RJ98	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJ99	0790015R	RES.CHIP 1/16W 22 OHM	0	0	0	0	0
RJA2	0790024R	RES.CHIP 1/16W 100 OHM	0	0	0	0	0
RJA3	0790039R	RES.CHIP 1/16W 1.5K OHM	0	0	0	0	0
RJA4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJA6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJA9	0790061R	RES.CHIP 1/16W 56K OHM		0	0		
RJC4	0790019R	RES.CHIP 1/16W 47 OHM		0	0		
RJC5	0790019R	RES.CHIP 1/16W 47 OHM		0	0		
RJC6	0790073R	RES.CHIP 1/16W 470K OHM		0	0		
RJC7	0790073R	RES.CHIP 1/16W 470K OHM		0	0		
RJE1	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJE2	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJE7	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJE8	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJF1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF3	AQ00183R	RES.CHIP 1/16W 390 OHM TAPE		0	0		
RJF4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJF9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJH1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJH2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJH3	0790046R	RES.CHIP 1/16W 4.7K OHM		0	0		
RJH4	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJH5	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJH6	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJH7	0790046R	RES.CHIP 1/16W 4.7K OHM		0	0		
RJH8	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJH9	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJJ1	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJJ2	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJJ3	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJJ4	AQ00164R	CHIP RESITOR 1/16W 75OHM TAPE		0	0		
RJJ5	AQ00165R	RES.CHIP 1/16W 82 OHM TAPE		0	0		
RJJ6	AQ00142R	RES.CHIP 1/16W 11 OHM TAPE		0	0		
RJJ7	0790046R	RES.CHIP 1/16W 4.7K OHM		0	0		
RJJ8	0790045R	RES.CHIP 1/16W 3.9K OHM		0	0		

HDMI PWB.

			LC47K HDMI PWB ASY	LC48 HDMI PWB ASY	LC48B HDMI PWB ASY	LC47 HDMI PWB ASY	LC47B HDMI PWB ASY
RJJ9	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK1	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK2	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK3	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK4	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK5	0790017R	RES.CHIP 1/16W 33 OHM		0	0		
RJK6	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJK7	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJK8	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJK9	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJL1	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJL2	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJL3	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJL4	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJL5	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJL6	0790059R	RES.CHIP 1/16W 47K OHM		0	0		
RJL7	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJL8	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJL9	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJM3	0790068R	RES.CHIP 1/16W 220K OHM		0	0		
RJM4	0790068R	RES.CHIP 1/16W 220K OHM		0	0		
RJM5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJM6	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE		0	0		
RJM7	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE		0	0		
RJM8	0790049R	RES.CHIP 1/16W 8.2K OHM		0	0		
RJM9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJN1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJN2	0790064R	RES.CHIP 1/16W 100K OHM		0	0		
RJN3	0790033R	RES.CHIP 1/16W 470 OHM		0	0		
RJN4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJN5	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE		0	0		
RJN6	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE		0	0		
RJN7	0790049R	RES.CHIP 1/16W 8.2K OHM		0	0		
RJN8	0790064R	RES.CHIP 1/16W 100K OHM		0	0		
RJN9	0790033R	RES.CHIP 1/16W 470 OHM		0	0		
RJP1	0790015R	RES.CHIP 1/16W 22 OHM		0	0		
RJP3	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJP4	0790039R	RES.CHIP 1/16W 1.5K OHM		0	0		
RJP5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJP6	0790015R	RES.CHIP 1/16W 22 OHM		0	0		
RJP8	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJP9	0790039R	RES.CHIP 1/16W 1.5K OHM		0	0		
RJQ1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJQ2	0790015R	RES.CHIP 1/16W 22 OHM		0	0		
RJQ4	0790024R	RES.CHIP 1/16W 100 OHM		0	0		
RJQ5	0790039R	RES.CHIP 1/16W 1.5K OHM		0	0		
RJQ6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJR3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJR4	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJR5	0790037R	RES.CHIP 1/16W 1.0K OHM	0	0	0	0	0
RJR6	0790037R	RES.CHIP 1/16W 1.0K OHM		0	0		
RJR7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0			0	0
RJR9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	0	0	0	0	0
RJT2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608		0	0		
RJT3	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJT4	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJT5	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJT6	0790051R	RES.CHIP 1/16W 10K OHM	0	0	0	0	0
RJT7	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJT8	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJT9	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJU1	0790051R	RES.CHIP 1/16W 10K OHM		0	0		
RJU2	AQ00421R	CHIP RESISTOR 1608(2)0OHM	0	0	0	0	0
RJU3	AQ00421R	CHIP RESISTOR 1608(2)0OHM	0	0	0	0	0
RJU4	AQ00421R	CHIP RESISTOR 1608(2)0OHM	0	0	0	0	0
RJU5	AQ00421R	CHIP RESISTOR 1608(2)0OHM	0	0	0	0	0
RJU6	AQ00421R	CHIP RESISTOR 1608(2)0OHM		0	0		
RJU7	AQ00421R	CHIP RESISTOR 1608(2)0OHM		0	0		
RJU8	AQ00421R	CHIP RESISTOR 1608(2)0OHM		0	0		
RJU9	AQ00421R	CHIP RESISTOR 1608(2)0OHM		0	0		

CONTROL PWB

			LC47K CONTROL PWB ASY	LC48 CONTROL PWB ASY	LC47B CONTROL PWB ASY	LC47 CONTROL PWB ASY	LC47B CONTROL PWB ASY
	JK08734	LC4X CONTROL-A PWB #4	0				
	JK08744	LC4X CONTROL-B PWB #4		0	0		
		CAPACITORS					
CM02	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CM04	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V	0	0	0	0	0
CM06	0880194R	CAP.-POLYESTER 0.1UF-J 50V	0	0	0	0	0
CM09	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CM10	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CM11	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	0	0	0	0	0
CM12	0800318R	CAP.-ELECTRO. 47UF-M 25V	0	0	0	0	0
CM17	0800325R	CAP.-ELECTRO. 100UF-M 10V	0	0	0	0	0
CM18	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	0	0	0	0	0
CM19	0800325R	CAP.-ELECTRO. 100UF-M 10V	0	0	0	0	0
CM20	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V	0	0	0	0	0
CM25	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V					
CM26	0800325R	CAP.-ELECTRO. 100UF-M 10V					
CM27	0890078R	CAP.-CERAMIC 220PF-K 50V					

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

CONTROL PWB

			LC47K CONTROL PWB ASY	LC48 CONTROL PWB ASY	LC47B CONTROL PWB ASY	LC47 CONTROL PWB ASY	LC47B CONTROL PWB ASY
CM28	0880194R	CAP.-POLYESTER 0.1UF-J 50V					
CM29	0890074R	CAP.-CERAMIC 100PF-J 50V					
CM30	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V					
CM31	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V					
CM32	0800326R	CAP.-ELECTRO. 100UF-M 16V					
CM91	0880203R	CAP.-POLYESTER 0.47UF-J 50V		0	0		
CM92	0880203R	CAP.-POLYESTER 0.47UF-J 50V		0	0		
CM93	0880194R	CAP.-POLYESTER 0.1UF-J 50V		0	0		
CM94	0800353R	CAP.-ELECTRO.470UF-M 16V		0	0		
		DIODES					
DM03	CH02711	SLR343 BBT3F (LED BLUE)	0	0	0	0	0
DM04	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM07	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM08	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM09	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM10	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM11	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM12	2348123M	ZENER MTZJ-6.2C TA	0	0	0	0	0
DM13	2348212M	ZENER DIODE MTZ-J15B	0	0	0	0	0
DM14	2344041M	DIODE 1SS254TA/1SS270TA					
DM15	CH02721	PHOTO DIODE PNZ313B					
DM16	2348212M	ZENER DIODE MTZ-J15B					
DM18	CH02671	LED SR3517F6 (RED)	0	0	0	0	0
DM19	CH02671	LED SR3517F6 (RED)	0	0	0	0	0
DM91	2344041M	DIODE 1SS254TA/1SS270TA		0	0		
DM92	2344041M	DIODE 1SS254TA/1SS270TA		0	0		
DM93	2344041M	DIODE 1SS254TA/1SS270TA		0	0		
DM94	2348174M	DIODE MTZ-J10DTA		0	0		
		INTERGRATED CIRCUITS					
HM01	CZ01171	IC GP1UM281RK	0	0	0	0	0
HM02	CZ01161	IC GP1UM281QK	0	0	0	0	0
IM01	CP08281U	ANALOG MONOLITHIC IC NJW2137D					
		MISCELLANEOUS					
JM01	EU00841	TAP-S.JACK				0	0
JM02	EU01351	TERMINAL S*3P T-355971-01	0	0	0		
LM01	BH00697R	FILTER COIL 100UH					
NM01A	MD08441	IR SHIELD COVER DP3X					
NM01B	MD08451	IR SHIELD CASE DP3X					
		CONNECTORS					
PDJ	2675286	PH CONNE. 7P	0			0	0
PDJ2	2959056	PIN POST(7P)		0	0		
PFF1A	2959051	PIN POST (2P)				0	0
PFF1B	2675281	PIN POST (PH 2P)				0	0
PFF2A	ED02823	2.5MM PITCH 5P XA PLUG (H)	0	0	0	0	0
PFF2B	ED02823	2.5MM PITCH 5P XA PLUG (H)	0	0	0	0	0
PFI2	2902263	PLUG PIN SUB MINI 4P				0	0
PFS	ED02832	2.5MM PITCH 13P XA PLUG (H)	0	0	0	0	0
PFS2	ED00391	PLUG 11P WITH LOCK	0	0	0		
PFS3B	2902263	PLUG PIN SUB MINI 4P	0	0	0		
PFT1	ED02829	2.5MM PITCH 11P XA PLUG (H)				0	0
PJG3A	2959057	PIN POST (PH 8P)		0	0		
PJG3B	2959057	PIN POST (PH 8P)		0	0		
PJJ	2675286	PH CONNE. 7P	0			0	0
PJJ2	2959056	PIN POST(7P)		0	0		
PPF1	2902262	PLUG PIN SUB MINI 3P		0	0		
PPFA	ED00383	PLUG 4P JST2.5ROCK		0	0		
PPFB	2959053	5P POST PIN 4P TYPE PH		0	0		
PPW1	2675284	PIN POST (PH 5P)	0	0	0	0	0
PPW2	2675284	PIN POST (PH 5P)	0	0	0	0	0
		TRANSISTORS					
QM01	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM03	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM04	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM05	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM06	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM07	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM08	CF01421R	TRS. KTC3198 (GR) TAPE					
QM10	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM11	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM12	CF01421R	TRS. KTC3198 (GR) TAPE	0	0	0	0	0
QM91	CF01421R	TRS. KTC3198 (GR) TAPE		0	0		
QM92	CF01421R	TRS. KTC3198 (GR) TAPE		0	0		
		RESISTORS					
RM03	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB	0	0	0	0	0
RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	0	0	0	0	0
RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	0	0	0	0	0
RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM13	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0			0	0
RM13	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR		0	0		
RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB	0	0	0	0	0
RM20	0100041M	RES.-CARBON FLM 1/8W 100-JB	0	0	0	0	0
RM21	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM23	0700064M	RES.-CARBON FLM 1/16W 56K-JB	0	0	0	0	0
RM24	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	0	0	0	0	0
RM25	0100123M	RES.-CARBON FLM 1/8W 270K-JB	0	0	0	0	0
RM26	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	0	0	0	0	0
RM27	0700064M	RES.-CARBON FLM 1/16W 56K-JB	0	0	0	0	0
RM28	0100123M	RES.-CARBON FLM 1/8W 270K-JB	0	0	0	0	0
RM29	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM30	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM31	0100041M	RES.-CARBON FLM 1/8W 100-JB	0	0	0	0	0
RM35	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM41	0700032M	RES.-CARBON FLM 1/16W 220-JB	0	0	0	0	0
RM42	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM43	0700059M	RES.-CARBON FLM 1/16W 27K-JB	0	0	0	0	0
RM46	0700059M	RES.-CARBON FLM 1/16W 27K-JB	0	0	0	0	0
RM47	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM48	0700032M	RES.-CARBON FLM 1/16W 220-JB	0	0	0	0	0
RM49	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	0	0	0	0	0
RM50	0100065M	RES.-CARBON FLM 1/8W 1K-JB	0	0	0	0	0
RM52	0700032M	RES.-CARBON FLM 1/16W 220-JB					
RM53	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB					
RM54	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB					
RM55	0700054M	RES.-CARBON FLM 1/16W 10K-JB					
RM56	0700029M	RES.-CARBON FLM 1/16W 150-JB					
RM57	0100121M	RES.-CARBON FLM 1/8W 220K-JB					
RM58	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB					
RM59	0700067M	RES.-CARBON FLM 1/16W 100K-JB					
RM60	0700055M	RES.-CARBON FLM 1/16W 12K-JB					
RM61	0700055M	RES.-CARBON FLM 1/16W 12K-JB					
RM62	0700033M	RES.-CARBON FLM 1/16W 270-JB					
RM63	0100121M	RES.-CARBON FLM 1/8W 220K-JB					
RM64	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB					
RM65	0700054M	RES.-CARBON FLM 1/16W 10K-JB					
RM66	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB					
RM70	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB					
RM71	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM72	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0			0	0
RM72	AT03881M	5.6KOHM 1/2W RDS50 CARBON FILM RESISTOR		0	0		
RM73	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM74	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	0			0	0
RM74	AT03881M	5.6KOHM 1/2W RDS50 CARBON FILM RESISTOR		0	0		
RM75	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	0	0	0	0	0
RM77	0700059M	RES.-CARBON FLM 1/16W 27K-JB	0	0	0	0	0
RM78	0700059M	RES.-CARBON FLM 1/16W 27K-JB	0	0	0	0	0
RM91	0700054M	RES.-CARBON FLM 1/16W 10K-JB		0	0		
RM92	0700054M	RES.-CARBON FLM 1/16W 10K-JB		0	0		
RM93	0700054M	RES.-CARBON FLM 1/16W 10K-JB		0	0		
RM94	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB		0	0		
RM95	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB		0	0		
RM96	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB		0	0		
RM97	AT03226S	METAL OX. 27.0OHM 1W		0	0		
		SWITCH.					
SM01	FE10402R	PUSH SWITCH SKQNAB				0	0
SM02	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM03	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM04	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM05	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM06	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM07	FE10402R	PUSH SWITCH SKQNAB	0	0	0	0	0
SM08	FE10402R	PUSH SWITCH SKQNAB	0	0	0		
SS01	FH00171	SWITCH SSCTA11900	0	0	0	0	0
SS02	FH00171	SWITCH SSCTA11900	0	0	0	0	0

LAMP POWER PWB

			LC47K LAMP POWER PWB ASY	LC48 LAMP POWER PWB ASY	LC48B LAMP POWER PWB ASY	LC47 LAMP POWER PWB ASY	LC47B LAMP POWER PWB ASY
		CAPACISTORS					
⚠ C9L1	AJ00167F	CAP.CERAMIC CS12-F2GA472MYNS	0	0	0	0	0
⚠ C9L2	AJ00167F	CAP.CERAMIC CS12-F2GA472MYNS	0	0	0	0	0
C9L3	AL02762	CAP.ELEC. 680UF 200V MXC SERIES	0	0	0	0	0
C9L4	AL02762	CAP.ELEC. 680UF 200V MXC SERIES	0	0	0	0	0
		COILS					
L9L1	BZ05691	LINE FILTER 7.5mH (70" ONLY)	0	0	0	0	0
		DIODES					
⚠ D9L1	2342062	DIODE D3SBA60-4103	0	0	0	0	0
		FUSE					
⚠ F9L1	FN00374	FUSE 51MS 060 L 125V 6A	0	0	0	0	0
		RESISTORS					
R9L2	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	0	0	0	0	0

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

Owner Assy & Accessories & Miscellaneous

			LC47K	LC48	LC48B	LC47	LC47B
E204	FR00061	DRY BATTERY R03(AB) E T					
E203	FQ00021	DRY BATTERY(R6P-AA)	0	0	0	0	0
E301	HL02064	REMOTE CONTROL UNIT CLU-3842WL	0	0	0	0	0
E301	HL02063	REMOTE CONTROL UNIT CLU-3841WL					
#500	GM01381	SPU S123HA501-10(SPEAKER)	0	0	0	0	0
#501	GM01391	SPU S123HA501-11(SPEAKER)	0	0	0	0	0
#600	GM01401	SPU S100HA515-10(SPEAKER)	0	0	0	0	0
#601	GM01411	SPU S100HA515-11(SPEAKER)	0	0	0	0	0
#	UX21513	LC47 SERVICE LAMP ASY(M)	0			0	0
#	UX21516	LC48/48B SERVICE LAMP ASY (PH)		0	0		

MECHANICAL PARTS

			42V710 FINAL ASY	42V515 FINAL ASY	42V715 FINAL ASY	
#011	QD38821	42V715 LOW CABINET ASY	0			
#011L	LQD3882	LC47 42 LOW CABI ASY	0			
#012	QD38822	42V515 LOW CABINET ASY		0		
#012L	LQD3882	LC47 42 LOW CABI ASY		0		
#013	QD38823	42V715 LOW CABINET ASY			0	
#013L	LQD3882	LC47 42 LOW CABI ASY			0	
#021	KS07941	42V715 MIRROR COVER ASY	0		0	
#021L	LKS0794	LC47 42 MIRR.COV.ASY	0		0	
#022	KS07942	42V515 MIRROR COVER ASY		0		
#022L	LKS0794	LC47 42 MIRR.COV.ASY		0		
#031	NT04341	42V710 FRAME ASY	0			
#031L	LNT0434	LC47 42 FRAME ASY	0			
#032	NT04342	42V515 FRAME ASY		0		
#032L	LNT0434	LC47 42 FRAME ASY		0		
#033	NT04343	42V715 FRAME ASY			0	
#033L	LNT0434	LC47 42 FRAME ASY			0	
#310	PH34373	FRONT COVER 42V710	0	0		
#312	PH34374	FRONT COVER 42V715			0	
#410	QD38241	LOW REAR COV 42VS701	0	0	0	
#420	3727972	POWER CORD HANGER	0	0	0	

				50V710 FINAL ASY	60V710 FINAL ASY	50V715 FINAL ASY	60V715 FINAL ASY
#011	QD38831	50V715 LOW CABINET ASY		0			
#011L	LQD3883	LC47 50 LOW CABI ASY		0			
#012	QD38832	60V715 LOW CABINET ASY			0		
#012L	LQD3883	LC47 50 LOW CABI ASY			0		
#013	QD38833	50V715 LOW CABINET ASY				0	
#013L	LQD3883	LC47 50 LOW CABI ASY				0	
#014	QD38834	60V715 LOW CABINET ASY					0
#014L	LQD3883	LC47 50 LOW CABI ASY					0
#021	KS07951	50V715 MIRROR COVER ASY		0		0	
#021L	LKS0795	LC47 50 MIRR.COV.ASY		0		0	
#022	KS07952	60V715 MIRROR COVER ASY			0		0
#022L	LKS0795	LC47 50 MIRR.COV.ASY			0		0
#031	NT04351	50V710 FRAME ASY		0			
#031L	LNT0435	LC47 50 FRAME ASY		0			
#032	NT04352	60V710 FRAME ASY			0		
#032L	LNT0435	LC47 50 FRAME ASY			0		
#033	NT04353	50V715 FRAME ASY				0	
#033L	LNT0435	LC47 50 FRAME ASY				0	
#034	NT04354	60V715 FRAME ASY					0
#034L	LNT0435	LC47 50 FRAME ASY					0
#150	ME03881	LOW UPPER COVER V715		0	0	0	0
#170	NA72482	CABI BRACKET MTL V715		0	0	0	0
#200	PH33042	FRONT TRIM MODIF-50V500		0		0	
#202	PH33311	FRONT TRIM 60V500			0		0
#220	PC05731	POWER BUTTON V500		0	0	0	0
#300	QD36556	LOW REAR COVER 50V715_MODIF		0		0	
#301	QD36532	LOW REAR COVER LC3M-60			0		0
#320	3727972	POWER CORD HANGER		0	0	0	0
#410	PH32986	FRONT COVER 50V-MOD		0			
#411	MQ01562	FRONT COVER STOPPER		0		0	
#411	PH32989	FRONT COVER 50V715				0	
#412	PH35731	60V500 FRONT COVER			0		
#413	PH35733	60V715 FRONT COVER					0
#430	PH33177	CONTROL DOOR V500		0	0		
#431	PH35701	CONTROL DOOR V715				0	0
#440	3875771	LATCH 4T02 NYLON		0	0	0	0
#450	KX12422	DAMPER US		0	0	0	0
#452	NA65961	DAMPER HOLDER V500		0	0	0	0
#700	NJ08271	V500 CABI BRACKET 3		0	0	0	0
#750	PH33441	LO CABI COVER F V500		0		0	
#751	PH33442	V500 LO CABI COVER F60			0		0
#80	3789291	744 GRILL PANEL HOLDER	PBT	0		0	
#800	3789291	744 GRILL PANEL HOLDER	PBT		0		0
#810	PH33033	LAMP COVER V500		0		0	
#811	PH33032	LC3X LAMP COVER 60			0		0

			50VS710 FINAL ASY	60VS710 FINAL ASY	50VX910 FINAL ASY	60VX910 FINAL ASY
#011	QD38861	50VS710 LOW CABINET ASY	0			
#011L	LQD3886	LC48 LOW CABI ASY	0			
#012	QD38862	60VS710 LOW CABINET ASY		0		
#012L	LQD3886	LC48 LOW CABI ASY		0		
#013	QD38863	50VX910 LOW CABINET ASY			0	
#013L	LQD3886	LC48 LOW CABI ASY			0	
#014	QD38864	60VX910 LOW CABINET ASY				0
#014L	LQD3886	LC48 LOW CABI ASY				0
#015	QD38865	50VS810A LOW CABINET ASY				
#015L	LQD3886	LC48 LOW CABI ASY				
#016	QD38866	60VS810A LOW CABINET ASY				
#016L	LQD3886	LC48 LOW CABI ASY				
#021	KS07961	50VS710 MIRROR COVER ASY	0			
#021L	LKS0796	LC48 MIRRO.COV.ASY	0			
#022	KS07962	60VS710 MIRROR COVER ASY		0		
#022L	LKS0796	LC48 MIRRO.COV.ASY		0		
#023	KS07963	50VX915 MIRROR COVER ASY			0	
#023L	LKS0796	LC48 MIRRO.COV.ASY			0	
#024	KS07964	60VX915 MIRROR COVER ASY				0
#024L	LKS0796	LC48 MIRRO.COV.ASY				0
#031	NT04401	50PF FRAME ASY (C1-K)	0			
#031L	LNT0440	50PF FRAME ASY	0			
#032	NT04475	60PF FRAME ASY (C1-K)		0		
#032L	LNT0447	60PF FRAME ASY		0		
#033	NT04391	50PF FRAME ASY (K2-K)			0	
#033L	LNT0439	50PF FRAME ASY			0	
#034	NT04471	60PF FRAME ASY (K2-K)				0
#034L	LNT0447	60PF FRAME ASY				0
#041	UE23671	50VS810 SIDE AV JACK B.ASY	0			
#041L	LUE2367	LC48 SIDE AV JACK B.	0			
#042	UE23672	60VS810 SIDE AV JACK B.ASY		0		
#042L	LUE2367	LC48 SIDE AV JACK B.		0		
#043	UE23673	50VX915 SIDE AV JACK B.ASY			0	
#043L	LUE2367	LC48 SIDE AV JACK B.			0	
#044	UE23674	60VX915 SIDE AV JACK B.ASY				0
#044L	LUE2367	LC48 SIDE AV JACK B.				0
#201	NA72441	50VS710 BACK BONE METAL	0		0	
#203	NA72442	60VS710 BACK BONE METAL		0		0
#205	MJ03635	SCRW T2B_4*16HZ+ SWCH16A	0	0	0	0
#301	QD38202	60VS810 LOW REAR COVER	0		0	
#303	QD38481	60VS701 LOW REAR COVER		0		0
#311	NA72421	50VS710 LAMP DOOR FIXED METAL	0	0	0	0
#321	PH34262	50VS701 LAMP DOOR	0			
#321	PH34263	50VS701 LAMP DOOR_MODIF	0		0	
#322	PH34961	60VS710 LAMP DOOR		0		0
#331	3727972	POWER CORD HANGER	0	0	0	0
#350A	NJ09852	LC48 EXHAUST DUCT 2	0	0	0	0
#355A	NJ20281	60VS710_LAMP_GUIDE		0		0

			60VS810A FINAL ASY	70VS810 FINAL ASY
#016	QD38866	60VS810A LOW CABINET ASY	0	
#016L	LQD3886	LC48 LOW CABI ASY	0	
#022	KS07962	60VS710 MIRROR COVER ASY	0	
#022L	LKS0796	LC48 MIRRO.COV.ASY	0	
#032	NT04475	60PF FRAME ASY (C1-K)	0	
#032L	LNT0447	60PF FRAME ASY	0	
#042	UE23672	60VS810 SIDE AV JACK B.ASY	0	
#042L	LUE2367	LC48 SIDE AV JACK B.	0	
#203	NA72442	60VS710 BACK BONE METAL	0	
#303	QD38481	60VS701 LOW REAR COVER	0	
#311	NA72421	50VS710 LAMP DOOR FIXED METAL	0	
#322	PH34961	60VS710 LAMP DOOR	0	
#331	3727972	POWER CORD HANGER	0	
#350A	NJ09852	LC48 EXHAUST DUCT 2	0	
#355A	NJ20281	60VS710_LAMP_GUIDE	0	
#350A	NJ09852	LC48 EXHAUST DUCT 2		0
#355A	NJ21001	PF70_LAMP_GUIDE		0

2.5 ICs and Units

No.	Symb. No	P#/DD#/L#	Description	⚠ Function	PWB	LC 46*	LC 47*	LC 48*	LC 49*
1	I002	CK39301R	IC MM1096AFFE	WATCH DOG TIMER	SIGNAL	X	X	X	X
2	I003	CK37051R	ANALOG MONO.IC (BD4729G)	RESET	SIGNAL	X	X	X	X
3	I004			MAIN MI-COM	SIGNAL	X	X	X	X
4	I005	CK50121R	IC CD4053BPWR	SD select	SIGNAL	X	X	X	X
5	I006	CK04681R	DIG.MONO.IC (DS14C232CM)	AV CONTROL	SIGNAL	X	X	X	X
6	I007	CK39652R	DIG.MONO.IC (BR24L32FJ-WE2)	E2PROM	SIGNAL	X	X	X	X
7	I008	CK50121R	IC CD4053BPWR	IRB/AV SELECT	SIGNAL	X	X	X	X
8	I009	CK50111R	IC SN74HCT245PWR	BUFFER	SIGNAL	X	X	X	X
9	I010	CK50121R	IC CD4053BPWR	BUS SELECT	SIGNAL	X	X	X	X
10	I011	CK39653R	DIG.MONO.IC (BR24L16FJ-WE2)	E2PROM	SIGNAL	X	X	X	X
11	I012	CK37413U	S3C80F9XKN-QZ87	IR BLASTER	SIGNAL	X	X	X	X
12	I013	CK37216R	MONO IC TK11133CSCL	+3.3v REGULATOR	SIGNAL	X	X	X	X
13	I014	CK34761R	DIG.MONO.IC (SN74LV221APWR)	H.BLK/V.BLK	SIGNAL	X	X	X	X
14	I401	CK39891R	MM1631XJBE	AUDIO SELECT	SIGNAL	X	X	X	X
15	I402	CK39881U	MM1630AQ	VIDEO SELECT	SIGNAL	X	X	X	X
16	I403	CP05163F	IC SI-3090F	REGURATOR	SIGNAL	X	X	X	X
17	I404	CK37162R	MONO IC SI-8033JD	REGURATOR	SIGNAL	X	X	X	X
18	I406	CK38377R	DIGITAL MONO IC SI-3090KM	REGURATOR	SIGNAL	X	X	X	X
19	I501	CK50001U	AN15865A	FORMAT DETECTION	SIGNAL	X	X	X	X
20	I502	CK50001U	AN15865A	FORMAT DETECTION	SIGNAL	X	X	X	X
21	I503	CK34991R	SN74ACT14PWR TSSO	SYNC.INVERTER	SIGNAL	X	X	X	X
22	IA01	CK38621R	IC NJM1160M-TE1	AUDIO CONTROL	SIGNAL	X	X	X	X
23	IA02	CP08091	ANALOG MONO.IC (TA8258H)	AUDIO OUTPUT AMP.	SIGNAL	X	X	X	X
24	IA03	CK33801R	IC NJM2068F	OP AMP	SIGNAL	X	X	X	X
25	IA05	CP08091	ANALOG MONO.IC (TA8258H)	WOOFER OUTPUT AMP	SIGNAL	X	X	X	X
26	IV01	CK37192R	MONO IC SI-3025LSA-TL	REGURATOR	SIGNAL	X	X	X	X
27	IV02	CK38701U	IC UPD64084GC-8EA-A	3D COMB FILTER	SIGNAL	X	X	X	X
28	IV03	CK37053R	RESET IC BD4727G	RESET IC	SIGNAL	X	X	X	X
29	IV04	CK07633R	DIGITAL MONO.IC (TC90A45F)	2L COMB FILTER	SIGNAL	X	X	X	X
30	IV06	CK35442R	MM1503XNRE	MAIN Y SELECTOR	SIGNAL	X	X	X	X
31	IV07	CK35441R	ANALOG MONO.IC (MM1501)	MAIN C SELECTOR	SIGNAL	X	X	X	X
32	IV08	CK07923U	IC TA1270BF	MAIN VIDEO/CHROMA	SIGNAL	X	X	X	X
33	IV09	CK35442R	MM1503XNRE	SUB Y SELECTOR	SIGNAL	X	X	X	X
34	IV10	CK35441R	ANALOG MONO.IC (MM1501)	SUB C SELECTOR	SIGNAL	X	X	X	X
35	IV12	CK07923U	IC TA1270BF	SUB VIDEO/CHROMA	SIGNAL	X	X	X	X
36	IY01	CK50121R	IC CD4053BPWR	CCD HV SELECTOR	SIGNAL	X	X	X	X
37	IY02	CK31042R	IC TA1287FG	MAIN CCD MIX	SIGNAL	X	X	X	X
38	IY03	CK31042R	IC TA1287FG	SUB CCD MIX	SIGNAL	X	X	X	X
39	IY04	CK38102R	NJM2584AM (TE1)	VIDEO SWITCH	SIGNAL	X	X	X	X
40	IY05	CP06541F	IC REG. (SI-3033C)	REGURATOR	SIGNAL	X	X	X	X

No.	Symb. No	P#/DD#/L#	Description	⚠ Function	PWB	LC 46*	LC 47*	LC 48*	LC 49*
41	IY06	CP06542F	IC REG. (SI-3050C)	REGURATOR	SIGNAL	X	X	X	X
42	IY07	CP05163S	IC SI-3090F (LF1111)	REGURATOR	SIGNAL	X	X	X	X
43	IY08	CP08341F	IC SI-3010KF	REGURATOR	SIGNAL	X	X	X	X
44	X002	BP01311R	CSTLS16M0X	16MHz OSCILLATOR	SIGNAL	X	X	X	X
45	X003	BP01313R	CSTLS8M00G53	8MHz OSCILLATOR	SIGNAL	X	X	X	X
46	XV02	BP01241	OSCILLATOR 3.58 49U	3.58MHz OSCILATOR	SIGNAL	X	X	X	X
47	XV03	BP01241	OSCILLATOR 3.58 49U	3.58MHz OSCILATOR	SIGNAL	X	X	X	X
48	XV04	2168771	VFL-CSB503F30	500kHz OSCILATOR	SIGNAL	X	X	X	X
49	XV05	2168771	VFL-CSB503F30	500kHz OSCILATOR	SIGNAL	X	X	X	X
50	IJ01	CK39656R	DIG.MONO.IC (BR24L02FJ-WE2)	E2PROM FOR EDID	HDMI	X	X	X	X
51	IJ03	CK39811U	SII9993CTG100	HDMI	HDMI	X	X	X	X
52	IJ04	CK32011R	IC TC74HC151AF	S/PDIF BUFFER	HDMI	–	X	X	X
53	IJ05	CK39821R	PCM1754DBQR	AUDIO DAC	HDMI	X	X	X	X
54	IJ06	CK07141R	ANALOG MONO.IC (BA4558F-E2)	AUDIO AMP/FILTER	HDMI	X	X	X	X
55	IJ07	CK39656R	DIG.MONO.IC (BR24L02FJ-WE2)	E2PROM FOR EDID	HDMI	–	–	X	X
56	IJ09	CK39811U	SII9993CTG100	HDMI	HDMI	–	–	X	X
57	IJ10	CK39821R	PCM1754DBQR	S/PDIF BUFFER	HDMI	–	–	X	X
58	IJ11	CK07141R	ANALOG MONO.IC (BA4558F-E2)	AUDIO AMP/FILTER	HDMI	–	–	X	X
59	I302	CK37781R	TA1370FG	SYNC.SEPARATION	TUNER	X	X	X	X
60	U301	HC00495	FE-V0-A32FT	FRONT END	TUNER	–	X	X	X
61		HC00512	F/E ENGE6106DR	FRONT END	TUNER	X	–	–	–
62	U302	HC00464	FE-ENG36626G	FRONT END	TUNER	X	–	–	–
63		HC00504	FE-VO-A69FT	FRONT END	TUNER	–	X	X	X
64	DM15	CH02721	PHOTO DIODE PNZ313B	IR RECEIVER	CONTROL	X	X	X	X
65	HM01	CZ01171	IC GP1UM281RK	IR RECEIVER	CONTROL	X	X	X	X
66	HM02	CZ01161	IC GP1UM281QK	IR RECEIVER	CONTROL	X	X	X	X
67	IM01	CP08281U	ANALOG MONO.IC NJW2137D	OP AMP	CONTROL	X	X	X	X
68	U901	HA01331	POWER UNIT LC4X-DM_48W	POWER SUPPRY	CHASSIS	–	X	X	X
69		HA01332	POWER UNIT LC4X_48W	POWER SUPPRY	CHASSIS	X	–	–	–
70		HP00773	ANT SW	ANTENNA SPLITTER		X	X	X	X
71	UV01	UE23411	HCY501 (JUPITER-A)	DIGITAL MODULE	SIGNAL B.	X	X	X	X
72		UE23412	HCY502 (JUPITER-B)	DIGITAL MODULE	SIGNAL B.	X	X	X	X
73	U501	JP07452	HCZ502	FC/DRIVE ASS'Y	OPTIC.B.	X	X	X	X
74	E301	HL02061	REMOTE CTRL UNIT CLU-3841WL	REMOTE CONTROLLER	OWNERS	–	–	–	X
75		HL02062	REMOTE CTRL UNIT CLU-3842WL	REMOTE CONTROLLER	OWNERS	X	X	X	–
76	E302	HL01863	RML-CLU-122S	REMOTE CONTROLLER	OWNERS	–	–	–	X
77									
78									
79									
80									

LC-4x PWB & Major Assembly Parts List

CHASSIS	MODEL	CHASSIS PARTS								ENGINE PARTS			
		SIGNAL BLOCK ASSY (Note 1)	SIGNAL PWB	LAMP POWER PWB	HDMI PWB	TUNER PWB	CONTROL PWB (Note 2)	U901 POWER UNIT	HCY50x DIGITAL MODULE	LAMP POWER UNIT (BALLAST)	LAMP ASSY	OPTICAL ENGINE ASSY (Note 3)	LCD DRIVE PWB
LC47	42V710	UE23221	JT24541	JT24551	JT24561	JT24571	JT24581	HA01331	UE24851	HA01461	UX21513	UX23681	JP07451
LC47	42V715	UE23221	JT24541	JT24551	JT24561	JT24571	JT24581	HA01331	UE24851	HA01461	UX21513	UX23681	JP07451
LC47	50V710	UE23224	JT24544	JT24554	JT24564	JT24574	JT24584	HA01331	UE24851	HA01461	UX21513	UX23682	JP07451
LC47	50V715	UE23224	JT24544	JT24554	JT24564	JT24574	JT24584	HA01331	UE24851	HA01461	UX21513	UX23682	JP07451
LC47	60V710	UE23225	JT24545	JT24555	JT24565	JT24575	JT24585	HA01331	UE24851	HA01461	UX21513	UX23683	JP07451
LC47	60V715	UE23225	JT24545	JT24555	JT24565	JT24575	JT24585	HA01331	UE24851	HA01461	UX21513	UX23683	JP07451
LC48	50VS810	UE23222	JT24542	JT24552	JT24562	JT24572	JT24582	HA01331	UE24851	HA01461	UX21514	UX23751	JP07452
LC48	50VS810A	UE23222	JT24542	JT24552	JT24562	JT24572	JT24582	HA01331	UE24851	HA01461	UX21514	UX23751	JP07452
LC48	60VS810	UE23223	JT24543	JT24553	JT24563	JT24573	JT24583	HA01331	UE24853	HA01461	UX21514	UX23752	JP07452
LC48	60VS810A	UE23223	JT24543	JT24553	JT24563	JT24573	JT24583	HA01331	UE24853	HA01232	UX21516	UX23758	JP07452
LC48	70VS810	UE23223	JT24543	JT24971	JT24563	JT24573	JT24583	HA01331	UE24853	HA01471	UX21515	UX23755	JP07452
LC49	50VX915	UE23227	JT24547	JT24557	JT24567	JT24577	JT24587	HA01331	UE24852	HA01461	UX21514	UX23753	JP07452
LC49	60VX915	UE23228	JT24548	JT24558	JT24568	JT24578	JT24588	HA01331	UE24852	HA01461	UX21514	UX23754	JP07452
LC49	70VX915	UE23228	JT24548	JT24972	JT24568	JT24578	JT24588	HA01331	UE24852	HA01471	UX21515	UX23756	JP07452

NOTES:

1. Signal Block Assy includes:
   - Signal PWB
   - HDMI PWB
   - Tuner PWB
   - HCY50x Digital Assy
   - U901 Power Unit

2. Control PWB includes: (all small boards)
   - Sub-IR PWB
   - Fan PWB
   - Door SW PWB
   - LED PWB
   - etc…

3. Optical Engine Assy includes:
   - LCD Drive PWB

HITACHI